

SEQUENCE LISTING

<110> Jacobs, Kenneth
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(Typed or printed name of person mailing paper or fee)


(Signature of person mailing paper or fee)

<120> SECRETED PROTEINS AND POLYNUCLEOTIDES ENCODING THEM

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<170> PatentIn Ver. 2.0

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Val Ser Glu Thr Arg Leu Glu Glu Ala Leu Glu Asn Leu Cys Glu Arg
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Ile Leu Asp Tyr Ser Val His Ala Glu Arg Lys Gly Ser Leu Arg Tyr
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<211> 2104

<212> DNA

<213> Homo sapiens

<400> 9

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<210> 10

<211> 373

<212> PRT

<213> Homo sapiens

<400> 10

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      20             25             30
```

```
Gly Gln Lys Lys Ile Arg Glu Ile Gln Glu Arg Glu Ala Ala Glu Tyr
      35             40             45
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Ile Ala Gln Ala Arg Arg Gln Tyr His Phe Glu Ser Asn Gln Arg Thr
      50             55             60
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Cys Asn Met Thr Val Leu Ser Met Leu Pro Thr Leu Arg Glu Ala Leu
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 Pro Ser Asn Lys Leu Glu Ile Trp Glu Asp Leu Lys Ile Ile Ser Phe
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 Thr Arg Ser Thr Val Ala Val Tyr Ser Thr Cys Met Leu Val Val Leu
 115 120 125
 Leu Arg Val Gln Leu Asn Ile Ile Gly Gly Tyr Ile Tyr Leu Asp Asn
 130 135 140
 Ala Ala Val Gly Lys Asn Gly Thr Thr Ile Leu Ala Pro Pro Asp Val
 145 150 155 160
 Gln Gln Gln Tyr Leu Ser Ser Ile Gln His Leu Leu Gly Asp Gly Leu
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 Thr Glu Leu Ile Thr Val Ile Lys Gln Ala Val Gln Lys Val Leu Gly
 180 185 190
 Ser Val Ser Leu Lys His Ser Leu Ser Leu Leu Asp Leu Glu Gln Lys
 195 200 205
 Leu Lys Glu Ile Arg Asn Leu Val Glu Gln His Lys Ser Ser Ser Trp
 210 215 220
 Ile Asn Lys Asp Gly Ser Lys Pro Leu Leu Cys His Tyr Met Met Pro
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 Asp Glu Glu Thr Pro Leu Ala Val Gln Ala Cys Gly Leu Ser Pro Arg
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 Asp Ile Thr Thr Ile Lys Leu Leu Asn Glu Thr Arg Asp Met Leu Glu
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 Ser Pro Asp Phe Ser Thr Val Leu Asn Thr Cys Leu Asn Arg Gly Phe
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 Ser Arg Leu Leu Asp Asn Met Ala Glu Phe Phe Arg Pro Thr Glu Gln
 290 295 300
 Asp Leu Gln His Gly Asn Ser Met Asn Ser Leu Ser Ser Val Ser Leu
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 Pro Leu Ala Lys Ile Ile Pro Ile Val Asn Gly Gln Ile His Ser Val
 325 330 335
 Cys Ser Glu Thr Pro Ser His Phe Val Gln Asp Leu Leu Thr Met Glu
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 Gln Val Lys Asp Phe Ala Ala Asn Val Tyr Glu Ala Phe Ser Thr Pro
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 <212> DNA
 <213> Homo sapiens

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caaaaataaa aaaaaaaaaa aa 3262

<210> 12
<211> 837
<212> PRT
<213> Homo sapiens

<400> 12

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Gln Pro Gln Pro Pro Pro Pro Pro Pro Ala Ala Ala Gln Pro Pro
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Pro Gly Ala Pro Arg Ala Ala Ala Gly Leu Leu Pro Gly Gly Lys Ala
35 40 45

Arg Glu Phe Asn Arg Asn Gln Arg Lys Asp Ser Glu Gly Tyr Ser Glu
50 55 60

Ser Pro Asp Leu Glu Phe Glu Tyr Ala Asp Thr Asp Lys Trp Ala Ala
65 70 75 80

Glu Leu Ser Glu Leu Tyr Ser Tyr Thr Glu Gly Pro Glu Phe Leu Met
85 90 95

Asn Arg Lys Cys Phe Glu Glu Asp Phe Arg Ile His Val Thr Asp Lys
100 105 110

Lys Trp Thr Glu Leu Asp Thr Asn Gln His Arg Thr His Ala Met Arg
115 120 125

Leu Leu Asp Gly Leu Glu Val Thr Ala Arg Glu Lys Arg Leu Lys Val
130 135 140

Ala Arg Ala Ile Leu Tyr Val Ala Gln Gly Thr Phe Gly Glu Cys Ser
145 150 155 160

Ser Glu Ala Glu Val Gln Ser Trp Met Arg Tyr Asn Ile Phe Leu Leu
165 170 175

Leu Glu Val Gly Thr Phe Asn Ala Leu Val Glu Leu Leu Asn Met Glu
180 185 190

Ile Asp Asn Ser Ala Ala Cys Ser Ser Ala Val Arg Lys Pro Ala Ile
195 200 205

Ser Leu Ala Asp Ser Thr Asp Leu Arg Val Leu Leu Asn Ile Met Tyr
210 215 220

Leu Ile Val Glu Thr Val His Gln Glu Cys Glu Gly Asp Lys Ala Glu
225 230 235 240

Trp Arg Thr Met Arg Gln Thr Phe Arg Ala Glu Leu Gly Ser Pro Leu
245 250 255

Tyr Asn Asn Glu Pro Phe Ala Ile Met Leu Phe Gly Met Val Thr Lys
260 265 270

Phe Cys Ser Gly His Ala Pro His Phe Pro Met Lys Lys Val Leu Leu
 275 280 285
 Leu Leu Trp Lys Thr Val Leu Cys Thr Leu Gly Gly Phe Glu Glu Leu
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 Gln Ser Met Lys Ala Glu Lys Arg Ser Ile Leu Gly Leu Pro Pro Leu
 305 310 315 320
 Pro Glu Asp Ser Ile Lys Val Ile Arg Asn Met Arg Ala Ala Ser Pro
 325 330 335
 Pro Ala Ser Ala Ser Asp Leu Ile Glu Gln Gln Gln Lys Arg Gly Arg
 340 345 350
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 Glu Arg Asp Pro Tyr Lys Ala Asp Asp Ser Arg Glu Glu Glu Glu Glu
 370 375 380
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 385 390 395 400
 Asp Glu Val Met Pro Pro Pro Leu Gln His Pro Gln Thr Asp Arg Leu
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 420 425 430
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 450 455 460
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 465 470 475 480
 Val Gln Ala Gln Met Glu Glu Glu Tyr Leu Arg Ser Pro Leu Ser Gly
 485 490 495
 Gly Glu Glu Glu Val Glu Gln Val Pro Ala Glu Thr Leu Tyr Gln Gly
 500 505 510
 Leu Leu Pro Ser Leu Pro Gln Tyr Met Ile Ala Leu Leu Lys Ile Leu
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 Leu Ala Ala Ala Pro Thr Ser Lys Ala Lys Thr Asp Ser Ile Asn Ile
 530 535 540
 Leu Ala Asp Val Leu Pro Glu Glu Met Pro Thr Thr Val Leu Gln Ser
 545 550 555 560
 Met Lys Leu Gly Val Asp Val Asn Arg His Lys Glu Val Ile Val Lys
 565 570 575
 Ala Ile Ser Ala Val Leu Leu Leu Leu Lys His Phe Lys Leu Asn
 580 585 590

His Val Tyr Gln Phe Glu Tyr Met Ala Gln His Leu Val Phe Ala Asn
595 600 605

Cys Ile Pro Leu Ile Leu Lys Phe Phe Asn Gln Asn Ile Met Ser Tyr
610 615 620

Ile Thr Ala Lys Asn Ser Ile Ser Val Leu Asp Tyr Pro His Cys Val
625 630 635 640

Val His Glu Leu Pro Glu Leu Thr Ala Glu Ser Leu Glu Ala Gly Asp
645 650 655

Ser Asn Gln Phe Cys Trp Arg Asn Leu Phe Ser Cys Ile Asn Leu Leu
660 665 670

Arg Ile Leu Asn Lys Leu Thr Lys Trp Lys His Ser Arg Thr Met Met
675 680 685

Leu Val Val Phe Lys Ser Ala Pro Ile Leu Lys Arg Ala Leu Lys Val
690 695 700

Lys Gln Ala Met Met Gln Leu Tyr Val Leu Lys Leu Leu Lys Val Gln
705 710 715 720

Thr Lys Tyr Leu Gly Arg Gln Trp Arg Lys Ser Asn Met Lys Thr Met
725 730 735

Ser Ala Ile Tyr Gln Lys Val Arg His Arg Leu Asn Asp Asp Trp Ala
740 745 750

Tyr Gly Asn Asp Leu Asp Ala Arg Pro Trp Asp Phe Gln Ala Glu Glu
755 760 765

Cys Ala Leu Arg Ala Asn Ile Glu Arg Phe Asn Ala Arg Arg Tyr Asp
770 775 780

Arg Ala His Ser Asn Pro Asp Phe Leu Pro Val Asp Asn Cys Leu Gln
785 790 795 800

Ser Val Leu Gly Gln Arg Val Asp Leu Pro Glu Asp Phe Gln Met Asn
805 810 815

Tyr Asp Leu Trp Leu Glu Arg Glu Val Phe Ser Lys Pro Ile Ser Trp
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Glu Glu Leu Leu Gln
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<210> 13

<211> 1264

<212> DNA

<213> Homo sapiens

<400> 13

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<210> 14

<211> 80

<212> PRT

<213> Homo sapiens

<400> 14

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Met Ala Arg Thr Leu Glu Pro Leu Ala Lys Lys Ile Phe Lys Gly Val
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Leu Val Ala Glu Leu Val Gly Val Phe Gly Ala Tyr Phe Leu Phe Ser
      20             25            30

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```

Lys Met His Thr Ser Gln Asp Phe Arg Gln Thr Met Ser Lys Lys Tyr
      35             40            45

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Pro Phe Ile Leu Glu Val Tyr Tyr Lys Ser Thr Glu Lys Ser Gly Met
      50             55            60

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Tyr Gly Ile Arg Glu Leu Asp Gln Lys Thr Trp Leu Asn Ser Lys Asn
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<210> 15

<211> 2671

<212> DNA

<213> Homo sapiens

<400> 15

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<210> 16

<211> 804

<212> PRT

<213> Homo sapiens

<400> 16

Met Ala Ala His Arg Pro Gly Pro Leu Lys Gln Gln Asn Lys Ala His
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Ser Arg Val Asp Gln Arg His Arg Ala Ser Gln Leu Arg Lys Gln Lys
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Pro Pro His Gln Val Leu Val Val Pro Leu His Ser Arg Ile Ser Leu
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Leu Asn Glu Leu Gly Asn Thr Gln Asn Phe Met Leu Leu Cys Pro Arg

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| Leu His Ile Val Gly Tyr Gly Asp Leu Pro Asp Glu Gln Ile Asp Ala | | |
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| Asp Glu Tyr Glu Tyr Asp Asp Met Glu His Glu Asp Phe Met Glu Glu | | |
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| Glu Glu Lys Glu Val Glu Gly Ala Glu Val Gly Trp Tyr Val Thr Leu | | |
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| His Val Ser Glu Val Pro Val Ser Val Val Glu Cys Phe Arg Gln Gly | | |
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| Thr Pro Leu Ile Ala Phe Ser Leu Leu Pro His Glu Gln Lys Met Ser | | |
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| Lys Ala Lys Glu Glu Leu Ile Phe His Cys Gly Phe Arg Arg Phe Arg | | |
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| Ala Ser Pro Leu Phe Ser Gln His Thr Ala Ala Asp Lys His Lys Leu | | |
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| Gln Arg Phe Leu Thr Ala Asp Met Ala Leu Val Ala Thr Val Tyr Ala | | |
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| Asn Gly Met His Ser Leu Ile Ala Thr Gly His Leu Met Ser Val Asp | | |
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| Pro Asp Arg Met Val Ile Lys Arg Val Val Leu Ser Gly His Pro Phe | | |
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| Arg Arg Gly His Ile Lys Glu Pro Leu Gly Thr His Gly His Met Lys | | |
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| Cys Ser Phe Asp Gly Lys Leu Lys Ser Gln Asp Thr Val Leu Met Asn | | |

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760

765

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 Gly Gln Gly Leu Lys His Leu Phe Gln His Gln Arg Arg Arg Ser Ser
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 Val Ser Pro His Asp Val Gln Gln Ile Gln Ala Asp Pro Glu Pro Glu
 65 70 75 80

 Met Asp Leu Glu Ser Gln Asn Ala Cys Ala Glu Ile Asp Gly Val Pro
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 Thr His Pro Thr Ala Leu Asn Arg Val Leu Gln Gln Ile Arg Val Pro
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 Pro Xaa Met Lys Arg Gly Thr Ser Leu His Ser Arg Arg Gly Lys Pro
 115 120 125

 Glu Ala Pro Lys Gly Ser Pro Gln Ile Asn Arg Lys Ser Gly Gln Glu
 130 135 140

 Met Thr Ala Val Met Gln Ser Gly Arg Pro Met Ser Ser Ser Thr Thr
 145 150 155 160

 Asp Ala Pro Thr Gly Ser Ala Met Met Glu Ile Ala Cys Ala Ala Ala
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 Ala Ala Ala Ala Ala Cys Leu Pro Gly Glu Glu Gly Thr Ala Glu Arg
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Ile Glu Arg Leu Glu Val Ser Ser Leu Ala Gln Thr Ser Ser Ala Val
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 Ala Ser Ser Thr Asp Gly Ser Ile His Thr Asp Ser Val Asp Gly Thr
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 Pro Asp Pro Gln Arg Thr Lys Ala Ala Ile Ala His Leu Gln Gln Lys
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 <211> 3349
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 <213> Homo sapiens

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<210> 22

<211> 208

<212> PRT

<213> Homo sapiens

<400> 22

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 20 25 30

Ala Ala Ser Ala Asn Ile Glu Asn Ser Gly Leu Pro His Asn Ser Ser
 35 40 45

Ala Asn Ser Thr Glu Thr Leu Gln His Val Pro Ser Asp His Thr Asn
 50 55 60

Glu Thr Ser Asn Ser Thr Val Lys Pro Pro Thr Ser Val Ala Ser Asp
 65 70 75 80

Ser Ser Asn Thr Thr Val Thr Thr Met Lys Pro Thr Ala Ala Ser Asn
 85 90 95

Thr Thr Thr Pro Gly Met Val Ser Thr Asn Met Thr Ser Thr Thr Leu
 100 105 110

Lys Ser Thr Pro Lys Thr Thr Ser Val Ser Gln Asn Thr Ser Gln Ile

| | | |
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| 130 | 135 | 140 |
| Ala Ser Ser Val Thr Ile Thr Thr Thr Met His | Ser Glu Ala Lys Lys | |
| 145 | 150 | 155 160 |
| Gly Ser Lys Phe Asp Thr Gly Ser Phe Val Gly Gly Ile Val Leu Thr | | |
| | 165 | 170 175 |
| Leu Gly Val Leu Ser Ile Leu Tyr Ile Gly Cys Lys Met Tyr Tyr Ser | | |
| | 180 | 185 190 |
| Arg Arg Gly Ile Arg Tyr Arg Thr Ile Asp Glu His Asp Ala Ile Ile | | |
| 195 | 200 | 205 |

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 <212> DNA
 <213> Homo sapiens

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 <212> PRT
 <213> Homo sapiens

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 Glu Ser Met Leu Thr Leu Gly Lys Glu Ser Lys Thr Pro Gly Lys Ser
 35 40 45
 Ser Val Pro Leu Tyr Leu Ile Tyr Pro Ser Val Glu Asn Val Arg Thr
 50 55 60
 Ser Leu Glu Gly Tyr Pro Ala Gly Gly Ser Leu Pro Tyr Ser Ile Gln
 65 70 75 80
 Thr Ala Glu Lys Gln Asn Trp Leu His Ser Tyr Phe His Lys Trp Ser
 85 90 95
 Ala Glu Thr Ser Gly Arg Ser Asn Ala Met Pro His Ile Lys Thr Tyr
 100 105 110
 Met Arg Pro Ser Pro Asp Phe Ser Lys Ile Ala Trp Phe Leu Val Thr
 115 120 125
 Ser Ala Asn Leu Ser Lys Ala Ala Trp Gly Ala Leu Glu Lys Asn Gly
 130 135 140
 Thr Gln Leu Met Ile Arg Ser Tyr Glu Leu Gly Val Leu Phe Leu Pro
 145 150 155 160
 Ser Ala Phe Gly Leu Asp Ser Phe Lys Val Lys Gln Lys Phe Phe Ala
 165 170 175
 Gly Ser Gln Glu Pro Met Ala Thr Phe Pro Val Pro Tyr Asp Leu Pro
 180 185 190
 Pro Glu Leu Tyr Gly Ser Lys Asp Arg Pro Trp Ile Trp Asn Ile Pro
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 Tyr Val Lys Ala Pro Asp Thr His Gly Asn Met Trp Val Pro Ser
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<210> 25
 <211> 3370
 <212> DNA
 <213> Homo sapiens

<400> 25


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<210> 26
<211> 545

<212> PRT

<213> Homo sapiens

<400> 26

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His Glu Thr Leu Gly Glu Ala Leu Gln Gly Val Glu Leu Glu Phe Ser
35 40 45

Gly Leu Asp Ile Lys Phe Lys Asp Asp Val Met Pro Ala Thr Tyr Cys
50 55 60

Glu Ile Asp Leu Asp Lys Glu Lys Arg Asp Ala Phe Val Tyr Ala Ile
65 70 75 80

Lys Asn His Tyr Trp Tyr Gln Met Tyr Ile Asp Asp Leu Pro Ile Trp
85 90 95

Gly Ile Val Gly Glu Ala Asp Glu Asn Gly Glu Asp Tyr Tyr Leu Trp
100 105 110

Thr Tyr Lys Lys Leu Glu Ile Gly Phe Asn Gly Asn Arg Ile Val Asp
115 120 125

Val Asn Leu Thr Ser Glu Gly Lys Val Lys Leu Val Pro Asn Thr Lys
130 135 140

Ile Gln Met Ser Tyr Ser Val Lys Trp Lys Lys Ser Asp Val Lys Phe
145 150 155 160

Glu Asp Arg Phe Asp Lys Tyr Leu Asp Pro Ser Phe Phe Gln His Arg
165 170 175

Ile His Trp Phe Ser Ile Phe Asn Ser Phe Met Met Val Ile Phe Leu
180 185 190

Val Gly Leu Val Ser Met Ile Leu Met Arg Thr Leu Arg Lys Asp Tyr
195 200 205

Ala Arg Tyr Ser Lys Glu Glu Glu Met Asp Asp Met Asp Arg Asp Leu
210 215 220

Gly Asp Glu Tyr Gly Trp Lys Gln Val His Gly Asp Val Phe Arg Pro
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Ser Ser His Pro Leu Ile Phe Ser Ser Leu Ile Gly Ser Gly Cys Gln
245 250 255

Ile Phe Ala Val Ser Leu Ile Val Ile Ile Val Ala Met Ile Glu Asp
260 265 270

Leu Tyr Thr Glu Arg Gly Ser Met Leu Ser Thr Ala Ile Phe Val Tyr
275 280 285

Ala Ala Thr Ser Pro Val Asn Gly Tyr Phe Gly Gly Ser Leu Tyr Ala
290 295 300

Arg Gln Gly Gly Arg Arg Trp Ile Lys Gln Met Phe Ile Gly Ala Phe
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 385 390 395 400
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| Gln | Pro | Pro | Pro | Pro | Ile | Thr | Glu | Glu | Asp | Ala | Gln | Asp | Met | Asp | Ala | | | | | | | | | | | | | | | | | | | | |
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| Val | Asp | Ser | Leu | Gly | Pro | Leu | Glu | Lys | Gly | Gln | Val | Lys | Asn | Glu | Ala | | | | | | | | | | | | | | | | | | | | |
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| | | | | 165 | | | | | 170 | | | | | 175 | | | | | | | | | | | | | | | | | | | | | |
| Asp | Leu | Val | Lys | Glu | Ala | Ile | Asp | Val | Phe | Val | Glu | Ala | Thr | His | Val | | | | | | | | | | | | | | | | | | | | |
| | | | 180 | | | | | 185 | | | | | 190 | | | | | | | | | | | | | | | | | | | | | | |
| Leu | Pro | Leu | His | Trp | Gly | Ala | Trp | Leu | Glu | Leu | Cys | Asn | Leu | Ile | Thr | | | | | | | | | | | | | | | | | | | | |
| | | 195 | | | | | 200 | | | | | 205 | | | | | | | | | | | | | | | | | | | | | | | |
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| Glu | Phe | Phe | Leu | Ala | His | Ile | Tyr | Thr | Glu | Leu | Gln | Leu | Ile | Glu | Glu | | | | | | | | | | | | | | | | | | | | |
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| Ala | Leu | Gln | Lys | Tyr | Gln | Asn | Leu | Ile | Asp | Val | Gly | Phe | Ser | Lys | Ser | | | | | | | | | | | | | | | | | | | | |
| | | | | 245 | | | | | 250 | | | | | 255 | | | | | | | | | | | | | | | | | | | | | |
| Ser | Tyr | Ile | Val | Ser | Gln | Ile | Ala | Val | Ala | Tyr | His | Asn | Ile | Arg | Asp | | | | | | | | | | | | | | | | | | | | |
| | | | 260 | | | | | 265 | | | | | 270 | | | | | | | | | | | | | | | | | | | | | | |
| Ile | Asp | Lys | Ala | Leu | Ser | Ile | Phe | Asn | Glu | Leu | Arg | Lys | Gln | Asp | Pro | | | | | | | | | | | | | | | | | | | | |
| | | 275 | | | | | 280 | | | | | 285 | | | | | | | | | | | | | | | | | | | | | | | |
| Tyr | Arg | Ile | Glu | Asn | Met | Asp | Thr | Phe | Ser | Asn | Leu | Leu | Tyr | Val | Arg | | | | | | | | | | | | | | | | | | | | |
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| Ile Val Glu His Leu Glu Glu Ser Thr Ala Phe Arg Tyr Leu Ala Gln | | |
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| Val Pro Ala Pro Phe Phe Leu Pro Ala Ser Leu Ser Ala Asn Asn Thr | | |
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<212> PRT

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 <213> Homo sapiens

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 Asp Ala Ala Ala Ala Glu Glu Glu Asp Gly Glu Phe Leu Gly Met Lys
 35 40 45
 Gly Phe Lys Gly Gln Leu Ser Arg Gln Val Ala Asp Gln Met Trp Gln
 50 55 60
 Ala Gly Lys Arg Gln Ala Ser Arg Ala Phe Ser Leu Tyr Ala Asn Ile
 65 70 75 80
 Asp Ile Leu Arg Pro Tyr Phe Asp Val Glu Pro Ala Gln Val Arg Ser
 85 90 95
 Arg Leu Leu Glu Ser Met Ile Pro Ile Lys Met Val Asn Phe Pro Gln
 100 105 110
 Lys Ile Ala Gly Glu Leu Tyr Gly Pro Leu Met Leu Val Phe Thr Leu
 115 120 125
 Val Ala Ile Leu Leu His Gly Met Lys Thr Ser Asp Thr Ile Ile Arg
 130 135 140
 Glu Gly Thr Leu Met Gly Thr Ala Ile Gly Thr Cys Phe Gly Tyr Trp
 145 150 155 160
 Leu Gly Val Ser Ser Phe Ile Tyr Phe Leu Ala Tyr Leu Cys Asn Ala
 165 170 175
 Gln Ile Thr Met Leu Gln Met Leu Ala Leu Leu Gly Tyr Gly Leu Phe
 180 185 190
 Gly His Cys Ile Val Leu Phe Ile Thr Tyr Asn Ile His Leu His Ala
 195 200 205
 Leu Phe Tyr Leu Phe Trp Arg Leu Val Gly Gly Leu Ser Thr Leu Arg
 210 215 220
 Met Val Ala Val Leu Val Ser Arg Thr Val Gly Pro Thr Gln Arg Leu
 225 230 235 240
 Leu Leu Cys Gly Thr Leu Ala Ala Leu His Met Leu Phe Leu Leu Tyr
 245 250 255
 Leu His Phe Ala Tyr His Lys Val Val Glu Gly Ile Leu Asp Thr Leu

260

265

270

Glu Gly Pro Asn Ile Pro Pro Ile Gln Arg Val Pro Arg Asp Ile Pro
275 280 285

Ala Met Leu Pro Ala Ala Arg Leu Pro Thr Thr Val Leu Asn Ala Thr
290 295 300

Ala Lys Ala Val Ala Val Thr Leu Gln Ser His
305 310 315

<210> 33

<211> 988

<212> DNA

<213> Homo sapiens

<400> 33

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<211> 107

<212> PRT

<213> Homo sapiens

<400> 34

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Gly Ala Leu Arg Ser Gly Pro Ser Leu Arg Lys Asp Gly Asp Val Ser
20 25 30

Ala Ala Trp Ser Gly Ser Gly Arg Ser Leu Val Pro Ser Arg Ser Val
35 40 45

Ile Val Thr Arg Ser Gly Ala Ile Leu Pro Lys Pro Val Lys Met Ser
50 55 60

Phe Gly Leu Leu Arg Val Phe Ser Ile Val Ile Pro Phe Leu Tyr Val
65 70 75 80

Gly Thr Leu Ile Ser Lys Asn Phe Ala Ala Leu Leu Glu Glu His Asp
85 90 95

Ile Phe Val Pro Glu Asp Asp Asp Asp Asp Asp
 100 105

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 <213> Homo sapiens

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<210> 36
 <211> 87
 <212> PRT
 <213> Homo sapiens

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 20 25 30
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 35 40 45
 Asn Phe Pro Gly Glu Pro Ser Leu Ser Ala Ile Thr Thr Ser Phe Gln
 50 55 60
 Val Ser Ser Tyr Phe His His His Asn Gln Tyr Gly Ala Ile Ile Tyr

65

70

75

80

Leu Cys Thr Cys Ser Tyr Val

85

<210> 37

<211> 643

<212> DNA

<213> Homo sapiens

<400> 37

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<210> 38

<211> 140

<212> PRT

<213> Homo sapiens

<400> 38

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Phe Leu Ile Lys Gly Ser Val Ala Gly Gly Ala Val Tyr Leu Val Tyr
 35 40 45

Asp Gln Glu Leu Leu Gly Pro Ser Asp Lys Ser Gln Ala Ala Leu Gln
 50 55 60

Lys Ala Gly Glu Val Val Pro Pro Ala Met Tyr Gln Phe Ser Gln Tyr
 65 70 75 80

Val Cys Gln Gln Thr Gly Leu Gln Ile Pro Gln Leu Pro Ala Pro Pro
 85 90 95

Lys Ile Tyr Phe Pro Ile Arg Asp Ser Trp Asn Ala Gly Ile Met Thr
 100 105 110

Val Met Ser Ala Leu Ser Val Ala Pro Ser Lys Ala Arg Glu Tyr Ser
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Lys Glu Gly Trp Glu Tyr Val Lys Ala Arg Thr Lys
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<210> 39

<211> 2015

<212> DNA

<213> Homo sapiens

<400> 39

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<210> 40

<211> 300

<212> PRT

<213> Homo sapiens

<400> 40

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Leu Met Ser Tyr Arg Ile Ile Thr Asp Phe Pro Ser Leu Thr Arg Asn
      35             40             45

Leu Pro Ser Gln Glu Leu Pro Gln Glu Asp Ser Leu Leu His Gly Gln
      50             55             60

Phe Ser Gln Ala Val Thr Pro Leu Ala His His His Thr Asp Tyr Ser
      65             70             75             80
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Lys Pro Thr Asp Ile Ser Trp Arg Asp Thr Leu Ser Gln Lys Phe Gly
 85 90 95
 Ser Ser Asp His Leu Glu Lys Leu Phe Lys Met Asp Glu Ala Ser Ala
 100 105 110
 Gln Leu Leu Ala Tyr Lys Glu Lys Gly His Ser Gln Ser Ser Gln Phe
 115 120 125
 Ser Ser Asp Gln Glu Ile Ala His Leu Leu Pro Glu Asn Val Ser Ala
 130 135 140
 Leu Pro Ala Thr Val Ala Val Ala Ser Pro His Thr Thr Ser Ala Thr
 145 150 155 160
 Pro Lys Pro Ala Thr Leu Leu Pro Thr Asn Ala Ser Val Thr Pro Ser
 165 170 175
 Gly Thr Ser Gln Pro Gln Leu Ala Thr Thr Ala Pro Pro Val Thr Thr
 180 185 190
 Val Thr Ser Gln Pro Pro Thr Thr Leu Ile Ser Thr Val Phe Thr Arg
 195 200 205
 Ala Ala Ala Thr Leu Gln Ala Met Ala Thr Thr Ala Val Leu Thr Thr
 210 215 220
 Thr Phe Gln Ala Pro Thr Asp Ser Lys Gly Ser Leu Glu Thr Ile Pro
 225 230 235 240
 Phe Thr Glu Ile Ser Asn Leu Thr Leu Asn Thr Gly Asn Val Tyr Asn
 245 250 255
 Pro Thr Ala Leu Ser Met Ser Asn Val Glu Ser Ser Thr Met Asn Lys
 260 265 270
 Thr Ala Ser Trp Glu Gly Arg Glu Ala Ser Pro Gly Ser Ser Ser Pro
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 <211> 1549
 <212> DNA
 <213> Homo sapiens

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<210> 42

<211> 396

<212> PRT

<213> Homo sapiens

<400> 42

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Phe | Gly | Leu | Phe | Ile | Ile | Phe | Tyr | Ser | Ala | Ile | Ile | Gly | Gly | Lys | Ile |
| | | 20 | | | | | | 25 | | | | | | 30 | |
| Leu | Gln | Leu | Ile | Arg | Ile | Pro | Leu | Val | Pro | Pro | Leu | Pro | Pro | Leu | Leu |
| | | 35 | | | | | | 40 | | | | | | 45 | |
| Gly | Met | Leu | Leu | Ala | Gly | Phe | Thr | Ile | Arg | Asn | Val | Pro | Phe | Ile | Asn |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Glu | His | Val | His | Val | Pro | Asn | Thr | Trp | Ser | Ser | Ile | Leu | Arg | Ser | Ile |
| | 65 | | | | | 70 | | | | | 75 | | | | 80 |
| Ala | Leu | Thr | Ile | Ile | Leu | Ile | Arg | Ala | Gly | Leu | Gly | Leu | Asp | Pro | Gln |
| | | | | 85 | | | | | 90 | | | | | | 95 |
| Ala | Leu | Arg | His | Leu | Lys | Val | Val | Cys | Phe | Arg | Leu | Ala | Val | Gly | Pro |
| | | | 100 | | | | | 105 | | | | | | 110 | |
| Cys | Leu | Met | Glu | Ala | Ser | Ala | Ala | Ala | Val | Phe | Ser | His | Phe | Ile | Met |
| | | 115 | | | | | | 120 | | | | | 125 | | |
| Lys | Phe | Pro | Trp | Gln | Trp | Ala | Phe | Leu | Leu | Gly | Phe | Val | Leu | Gly | Ala |
| | 130 | | | | | | 135 | | | | | 140 | | | |
| Val | Ser | Pro | Ala | Val | Val | Val | Pro | Tyr | Met | Met | Val | Leu | Gln | Glu | Asn |
| | 145 | | | | | 150 | | | | | 155 | | | | 160 |
| Gly | Tyr | Gly | Val | Glu | Glu | Gly | Ile | Pro | Thr | Leu | Leu | Met | Ala | Ala | Ser |
| | | | 165 | | | | | | 170 | | | | | | 175 |
| Ser | Met | Asp | Asp | Ile | Leu | Ala | Ile | Thr | Gly | Phe | Asn | Thr | Cys | Leu | Ser |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Ile | Val | Phe | Ser | Ser | Gly | Gly | Ile | Leu | Asn | Asn | Ala | Ile | Ala | Ser | Ile |
| | | | 195 | | | | | 200 | | | | | 205 | | |

Arg Asn Val Cys Ile Ser Leu Leu Ala Gly Ile Val Leu Gly Phe Phe
 210 215 220
 Val Arg Tyr Phe Pro Ser Glu Asp Gln Lys Lys Leu Thr Leu Lys Arg
 225 230 235 240
 Gly Phe Leu Val Leu Thr Met Cys Val Ser Ala Val Leu Gly Ser Gln
 245 250 255
 Arg Ile Gly Leu His Gly Ser Gly Gly Leu Cys Thr Leu Val Leu Ser
 260 265 270
 Phe Ile Ala Gly Thr Lys Trp Ser Gln Glu Lys Met Lys Val Gln Lys
 275 280 285
 Ile Ile Thr Thr Val Trp Asp Ile Phe Gln Pro Leu Leu Phe Gly Leu
 290 295 300
 Val Gly Ala Glu Val Ser Val Ser Ser Leu Glu Ser Asn Ile Val Gly
 305 310 315 320
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 325 330 335
 Thr Tyr Leu Leu Met Cys Phe Ala Gly Phe Ser Phe Lys Glu Lys Ile
 340 345 350
 Phe Ile Ala Leu Ala Trp Met Pro Lys Ala Thr Val Gln Ile Asn Gln
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<210> 43
 <211> 4433
 <212> DNA
 <213> Homo sapiens

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| | | | | | | |
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| aacaaaagcaa | tagaagatgt | tyagcttgca | ttagaaaact | gtccaactca | cagaaatgca | 1200 |
| agaaaatacc | tctgccagac | acttgtagag | agaggaggac | agttagaaga | agaagaaaag | 1260 |
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| ctacattact | taagtaaggc | attatgaaaa | gtttcttttt | aggtatagtt | tttcttaatt | 1500 |
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| gtgagaaaac | tattacctaa | atttggtatg | ttgttttgag | aaatgtcctt | ataggagct | 1620 |
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| tgagacatat | tttaaattgt | cttttctgt | aatactgatg | atgatgtttt | ctcatgcatt | 1740 |
| ttcttctgaa | ttggaccatt | gctgctgtgt | ctgtgacatc | tggtgctgct | catccccatc | 1800 |
| cacaaactgg | aaaatgattt | cctatgtaat | catgcattca | actgggctgt | gctatttttt | 1860 |
| taaatgggtt | gtatttgaa | atgggtgattc | ctccttcact | tcaccttaac | ggaatgtcct | 1920 |
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| catttcaatg | actaatgcca | aacatctgta | tgactaattt | ttttatgtta | aaaaataact | 2160 |
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| ctgttaagaa | tctttagcaa | atatgtgttc | catgtatttc | ctattaaaga | gatgaagtgg | 2580 |
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| acaaaaagca | taagaaacat | aagaggaacc | gttcagagtc | ttctcgcagt | tccagaaggc | 3240 |
| attcatctag | ggcatcctca | aatcagatag | atcagaatag | gaaagatgag | tgctaccag | 3300 |
| ttccagctaa | tacttcagca | tcttttctta | accataaaca | agaagtggag | aaactactgg | 3360 |
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| ttatcataga | tgacagctcc | attcatgtta | ctgaccctga | agaccttcaa | gtgggacaag | 3600 |
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| aaaaagctct | aggaagctaa | ggtcaattta | ttattggaga | aataaaaatta | tttttatgaa | 3900 |
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| aatggtttta | tggattaaat | tttttatgta | attcaactgg | aaagtatttt | tatgttattt | 4380 |
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<212> PRT

<213> Homo sapiens

<400> 44

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Ser Leu Leu Gly Ser Ala Ala Glu Pro Ala Arg Gly Pro Pro Pro Gln
35 40 45

His Pro Leu Gln Gly Arg Lys Glu Lys Arg Val Asp Asn Ile Glu Ile
50 55 60

Gln Lys Phe Ile Ser Lys Lys Ala Asp Leu Leu Phe Ala Leu Ser Trp
65 70 75 80

Lys Ser Asp Ala Pro Ala Thr Ser Glu Ile Asn Glu Asp Ser Glu Asp
85 90 95

His Tyr Ala Ile Met Pro Pro Leu Glu Gln Phe Met Glu Ile Pro Ser
100 105 110

Met Asp Arg Arg Glu Leu Phe Phe Arg Asp Ile Glu Arg Gly Asp Ile
115 120 125

Val Ile Gly Arg Ile Ser Ser Ile Arg Glu Phe Gly Phe Phe Met Val
130 135 140

Leu Ile Cys Leu Gly Ser Gly Ile Met Arg Asp Ile Ala His Leu Glu
145 150 155 160

Ile Thr Ala Leu Cys Pro Leu Arg Asp Val Pro Ser His Ser Asn His
165 170 175

Gly Asp Pro Leu Ser Tyr Tyr Gln Thr Gly Asp Ile Ile Arg Ala Gly
180 185 190

Ile Lys Asp Ile Asp Arg Tyr His Glu Lys Leu Ala Val Ser Leu Tyr
195 200 205

Ser Ser Ser Leu Pro Pro His Leu Ser Gly Ile Lys Leu Gly Val Ile
210 215 220

Ser Ser Glu Glu Leu Pro Leu Tyr Tyr Arg Arg Ser Val Glu Leu Asn
225 230 235 240

Ser Asn Ser Leu Glu Ser Tyr Glu Asn Val Met Gln Ser Ser Leu Gly
245 250 255

Phe Val Asn Pro Gly Val Val Glu Phe Leu Leu Glu Lys Leu Gly Ile
260 265 270

Asp Glu Ser Asn Pro Pro Ser Leu Met Arg Gly Leu Gln Ser Lys Asn
275 280 285

Phe Ser Glu Asp Asp Phe Ala Ser Ala Leu Arg Lys Lys Gln Ser Ala

290 295 300
 Ser Trp Ala Leu Lys Cys Val Lys Ile Gly Val Asp Tyr Phe Lys Val
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 Gly Arg His Val Asp Ala Met Asn Glu Tyr Asn Lys Ala Leu Glu Ile
 325 330 335
 Asp Lys Gln Asn Val Glu Ala Leu Val Ala Arg Gly Ala Leu Tyr Ala
 340 345 350
 Thr Lys Gly Ser Leu Asn Lys Ala Ile Glu Asp Phe Glu Leu Ala Leu
 355 360 365
 Glu Asn Cys Pro Thr His Arg Asn Ala Arg Lys Tyr Leu Cys Gln Thr
 370 375 380
 Leu Val Glu Arg Gly Gly Gln Leu Glu Glu Glu Lys Phe Leu Asn
 385 390 395 400
 Ala Glu Ser Tyr Tyr Lys Lys Ala Leu Ala Leu Asp Glu Thr Phe Lys
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 Asp Ala Glu Asp Ala Leu Gln Lys Leu His Lys Tyr Met Gln Val Ile
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<211> 1152

<212> PRT

<213> Homo sapiens

<400> 46

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 20 25 30

Met Phe Glu Lys Ile His Gln Glu Thr Phe Gly Lys Ser Gly Cys Ser
 35 40 45

Arg Ile Val Pro Gly Gln Phe Leu Ala Val Asp Pro Lys Gly Arg Ala

| | | |
|---|-----|---------|
| 50 | 55 | 60 |
| Val Met Ile Ser Ala Ile Glu Lys Gln Lys Leu Val Tyr Ile Leu Asn | | |
| 65 | 70 | 75 80 |
| Arg Asp Ala Ala Ala Arg Leu Thr Ile Ser Ser Pro Leu Glu Ala His | | |
| | 85 | 90 95 |
| Lys Ala Asn Thr Leu Val Tyr His Val Val Gly Val Asp Val Gly Phe | | |
| | 100 | 105 110 |
| Glu Asn Pro Met Phe Ala Cys Leu Glu Met Asp Tyr Glu Glu Ala Asp | | |
| | 115 | 120 125 |
| Asn Asp Pro Thr Gly Glu Ala Ala Ala Asn Thr Gln Gln Thr Leu Thr | | |
| | 130 | 135 140 |
| Phe Tyr Glu Leu Asp Leu Gly Leu Asn His Val Val Arg Lys Tyr Ser | | |
| 145 | 150 | 155 160 |
| Glu Pro Leu Glu Glu His Gly Asn Phe Leu Ile Thr Val Pro Gly Gly | | |
| | 165 | 170 175 |
| Ser Asp Gly Pro Ser Gly Val Leu Ile Cys Ser Glu Asn Tyr Ile Thr | | |
| | 180 | 185 190 |
| Tyr Lys Asn Phe Gly Asp Gln Pro Asp Ile Arg Cys Pro Ile Pro Arg | | |
| | 195 | 200 205 |
| Arg Arg Asn Asp Leu Asp Asp Pro Glu Arg Gly Met Ile Phe Val Cys | | |
| | 210 | 215 220 |
| Ser Ala Thr His Lys Thr Lys Ser Met Phe Phe Phe Leu Ala Gln Thr | | |
| 225 | 230 | 235 240 |
| Glu Gln Gly Asp Ile Phe Lys Ile Thr Leu Glu Thr Asp Glu Asp Met | | |
| | 245 | 250 255 |
| Val Thr Glu Ile Arg Leu Lys Tyr Phe Asp Thr Val Pro Val Ala Ala | | |
| | 260 | 265 270 |
| Ala Met Cys Val Leu Lys Thr Gly Phe Leu Phe Val Ala Ser Glu Phe | | |
| | 275 | 280 285 |
| Gly Asn His Tyr Leu Tyr Gln Ile Ala His Leu Gly Asp Asp Asp Glu | | |
| | 290 | 295 300 |
| Glu Pro Glu Phe Ser Ser Ala Met Pro Leu Glu Glu Gly Asp Thr Phe | | |
| 305 | 310 | 315 320 |
| Phe Phe Gln Pro Arg Pro Leu Lys Asn Leu Val Leu Val Asp Glu Leu | | |
| | 325 | 330 335 |
| Asp Ser Leu Ser Pro Ile Leu Phe Cys Gln Ile Ala Asp Leu Ala Asn | | |
| | 340 | 345 350 |
| Glu Asp Thr Pro Gln Leu Tyr Val Ala Cys Gly Arg Gly Pro Arg Ser | | |
| | 355 | 360 365 |
| Ser Leu Arg Val Leu Arg His Gly Leu Glu Val Ser Glu Met Ala Val | | |

| 370 | 375 | 380 |
|---|-----|-------------|
| Ser Glu Leu Pro Gly Asn Pro Asn Ala Val Trp Thr Val Arg Arg His | | |
| 385 | 390 | 395 400 |
| Ile Glu Asp Glu Phe Asp Ala Tyr Ile Ile Val Ser Phe Val Asn Ala | | |
| | 405 | 410 415 |
| Thr Leu Val Leu Ser Ile Gly Glu Thr Val Glu Glu Val Thr Asp Ser | | |
| | 420 | 425 430 |
| Gly Phe Leu Gly Thr Thr Pro Thr Leu Ser Cys Ser Leu Leu Gly Asp | | |
| | 435 | 440 445 |
| Asp Ala Leu Val Gln Val Tyr Pro Asp Gly Ile Arg His Ile Arg Ala | | |
| | 450 | 455 460 |
| Asp Lys Arg Val Asn Glu Trp Lys Thr Pro Gly Lys Lys Thr Ile Val | | |
| | 465 | 470 475 480 |
| Lys Cys Ala Val Asn Gln Arg Gln Val Val Ile Ala Leu Thr Gly Gly | | |
| | 485 | 490 495 |
| Glu Leu Val Tyr Phe Glu Met Asp Pro Ser Gly Gln Leu Asn Glu Tyr | | |
| | 500 | 505 510 |
| Thr Glu Arg Lys Glu Met Ser Ala Asp Val Val Cys Met Ser Leu Ala | | |
| | 515 | 520 525 |
| Asn Val Pro Pro Gly Glu Gln Arg Ser Arg Phe Leu Ala Val Gly Leu | | |
| | 530 | 535 540 |
| Val Asp Asn Thr Val Arg Ile Ile Ser Leu Asp Pro Ser Asp Cys Leu | | |
| | 545 | 550 555 560 |
| Gln Pro Leu Ser Met Gln Ala Leu Pro Ala Gln Pro Glu Ser Leu Cys | | |
| | 565 | 570 575 |
| Ile Val Glu Met Gly Gly Thr Glu Lys Gln Asp Glu Leu Gly Glu Arg | | |
| | 580 | 585 590 |
| Gly Ser Ile Gly Phe Leu Tyr Leu Asn Ile Gly Leu Gln Asn Gly Val | | |
| | 595 | 600 605 |
| Leu Leu Arg Thr Val Leu Asp Pro Val Thr Gly Asp Leu Ser Asp Thr | | |
| | 610 | 615 620 |
| Arg Thr Arg Tyr Leu Gly Ser Arg Pro Val Lys Leu Phe Arg Val Arg | | |
| | 625 | 630 635 640 |
| Met Gln Gly Gln Glu Ala Val Leu Ala Met Ser Ser Arg Ser Trp Leu | | |
| | 645 | 650 655 |
| Ser Tyr Ser Tyr Gln Ser Arg Phe His Leu Thr Pro Leu Ser Tyr Glu | | |
| | 660 | 665 670 |
| Thr Leu Glu Phe Ala Ser Gly Phe Ala Ser Glu Gln Cys Pro Glu Gly | | |
| | 675 | 680 685 |
| Ile Val Ala Ile Ser Thr Asn Thr Leu Arg Ile Leu Ala Leu Glu Lys | | |

| 690 | | | | 695 | | | | 700 | | | | | | | |
|------------|------------|-----|------------|------------|-------------|------------|-------------|------------|------------|------------|-------------|------------|------------|-----|------------|
| Leu 705 | Gly | Ala | Val | Phe | Asn 710' | Gln | Val | Ala | Phe | Pro 715 | Leu | Gln | Tyr | Thr | Pro 720 |
| Arg | Lys | Phe | Val | Ile 725 | His | Pro | Glu | Ser | Asn 730 | Asn | Leu | Ile | Ile | Ile | Glu 735 |
| Thr | Asp | His | Asn 740 | Ala | Tyr | Thr | Glu | Ala 745 | Thr | Lys | Ala | Gln | Arg | Lys | Gln 750 |
| Gln | Met 755 | Ala | Glu | Glu | Met | Val | Glu 760 | Ala | Ala | Gly | Glu | Asp 765 | Glu | Arg | Glu |
| Leu 770 | Ala | Ala | Glu | Met | Ala | Ala 775 | Ala | Phe | Leu | Asn 780 | Glu | Asn | Leu | Pro | Glu |
| Ser 785 | Ile | Phe | Gly | Ala | Pro 790 | Lys | Ala | Gly | Asn 795 | Gly | Gln | Trp | Ala | Ser | Val 800 |
| Ile | Arg | Val | Met 805 | Asn | Pro | Ile | Gln | Gly | Asn 810 | Thr | Leu | Asp | Leu | Val | Gln 815 |
| Leu | Glu | Gln | Asn 820 | Glu | Ala | Ala | Phe | Ser 825 | Val | Ala | Val | Cys | Arg 830 | Phe | Ser |
| Asn | Thr 835 | Gly | Glu | Asp | Trp | Tyr | Val 840 | Leu | Val | Gly | Val | Ala 845 | Lys | Asp | Leu |
| Ile 850 | Leu | Asn | Pro | Arg | Ser | Val 855 | Ala | Gly | Gly | Phe | Val 860 | Tyr | Thr | Tyr | Lys |
| Leu 865 | Val | Asn | Asn | Gly | Glu 870 | Lys | Leu | Glu | Phe | Leu 875 | His | Lys | Thr | Pro | Val 880 |
| Glu | Glu | Val | Pro 885 | Ala | Ala | Ile | Ala | Pro | Phe 890 | Gln | Gly | Arg | Val | Leu | Ile 895 |
| Gly | Val | Gly | Lys 900 | Leu | Leu | Arg | Val | Tyr 905 | Asp | Leu | Gly | Lys | Lys | Lys | Leu 910 |
| Leu | Arg 915 | Lys | Cys | Glu | Asn | Lys | His 920 | Ile | Ala | Asn | Tyr | Ile 925 | Ser | Gly | Ile |
| Gln 930 | Thr | Ile | Gly | His | Arg | Val 935 | Ile | Val | Ser | Asp 940 | Val | Gln | Glu | Ser | Phe |
| Ile 945 | Trp | Val | Arg | Tyr | Lys 950 | Arg | Asn | Glu | Asn | Gln 955 | Leu | Ile | Ile | Phe | Ala 960 |
| Asp | Asp | Thr | Tyr 965 | Pro | Arg | Trp | Val | Thr | Thr 970 | Ala | Ser | Leu | Leu | Asp | Tyr 975 |
| Asp | Thr | Val | Ala 980 | Gly | Ala | Asp | Lys | Phe 985 | Gly | Asn | Ile | Cys | Val | Val | Arg 990 |
| Leu | Pro 995 | Pro | Asn | Thr | Asn | Asp | Glu 1000 | Val | Asp | Glu | Asp 1005 | Pro | Thr | Gly | Asn |
| Lys | Ala | Leu | Trp | Asp | Arg | Gly | Leu | Leu | Asn | Gly | Ala | Ser | Gln | Lys | Ala |

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 Leu Ser Gly Gly Ile Gly Ile Leu Val Pro Phe Thr Ser His Glu Asp
 1060 1065 1070
 His Asp Phe Phe Gln His Val Glu Met His Leu Arg Ser Glu His Pro
 1075 1080 1085
 Pro Leu Cys Gly Arg Asp His Leu Ser Phe Arg Ser Tyr Tyr Phe Pro
 1090 1095 1100
 Val Lys Asn Val Ile Asp Gly Asp Leu Cys Glu Gln Phe Asn Ser Met
 1105 1110 1115 1120
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 Pro Glu Val Ser Lys Lys Leu Glu Asp Ile Arg Thr Arg Tyr Ala Phe
 1140 1145 1150

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 <213> Homo sapiens

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 <212> PRT
 <213> Homo sapiens

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 35 40 45
 Ala Gly Asp Ala Ser Phe Ser Ser Met Phe Gly Phe Ser Gln Tyr Gly
 50 55 60
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 Phe

<210> 49
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<211> 141
<212> PRT
<213> Homo sapiens

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Ala Ala Gly Ile Pro Leu Leu Val Ala Thr Ala Leu Leu Val Ala Leu
      35             40             45

Leu Phe Thr Leu Ile His Pro Arg Arg Ser Ser Ile Glu Ala Met Glu
      50             55             60

Glu Ser Asp Arg Pro Cys Glu Ile Ser Glu Ile Asp Asp Asn Pro Lys
      65             70             75             80

Ile Ser Glu Asn Pro Arg Arg Ser Pro Thr His Glu Lys Asn Thr Met
      85             90             95

Gly Ala Gln Glu Ala His Ile Tyr Val Lys Thr Val Ala Gly Ser Glu
      100            105            110

Glu Pro Val His Asp Arg Tyr Arg Pro Thr Ile Glu Met Glu Arg Arg
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Arg Gly Leu Trp Trp Leu Val Pro Arg Leu Ser Leu Glu
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<210> 51
<211> 5160
<212> DNA
<213> Homo sapiens

<400> 51

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<210> 52

<211> 1135

<212> PRT

<213> Homo sapiens

<400> 52

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Arg Ile Tyr Glu Glu Gln Arg Val Gly Ser Val Ile Ala Arg Leu Ser
 35 40 45

Glu Asp Val Ala Asp Val Leu Lys Leu Pro Asn Pro Ser Thr Val
 50 55 60

Arg Phe Arg Ala Met Gln Arg Gly Asn Ser Pro Leu Leu Val Val Asn
 65 70 75 80

Glu Asp Asn Gly Glu Ile Ser Ile Gly Ala Thr Ile Asp Arg Glu Gln
 85 90 95

Leu Cys Gln Lys Asn Leu Asn Cys Ser Ile Glu Phe Asp Val Ile Thr
 100 105 110

Leu Pro Thr Glu His Leu Gln Leu Phe His Ile Glu Val Glu Val Leu
 115 120 125

Asp Ile Asn Asp Asn Ser Pro Gln Phe Ser Arg Ser Leu Ile Pro Ile
 130 135 140

Glu Ile Ser Glu Ser Ala Ala Val Gly Thr Arg Ile Pro Leu Asp Ser
 145 150 155 160
 Ala Phe Asp Pro Asp Val Gly Glu Asn Ser Leu His Thr Tyr Ser Leu
 165 170 175
 Ser Ala Asn Asp Phe Phe Asn Ile Glu Val Arg Thr Arg Thr Asp Gly
 180 185 190
 Ala Lys Tyr Ala Glu Leu Ile Val Val Arg Glu Leu Asp Arg Glu Leu
 195 200 205
 Lys Ser Ser Tyr Glu Leu Gln Leu Thr Ala Ser Asp Met Gly Val Pro
 210 215 220
 Gln Arg Ser Gly Ser Ser Ile Leu Lys Ile Ser Ile Ser Asp Ser Asn
 225 230 235 240
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 245 250 255
 Glu Asn Ser Pro Val Gly Thr Leu Leu Leu Asp Leu Asn Ala Thr Asp
 260 265 270
 Pro Asp Glu Gly Ala Asn Gly Lys Ile Val Tyr Ser Phe Ser Ser His
 275 280 285
 Val Ser Pro Lys Ile Met Glu Thr Phe Lys Ile Asp Ser Glu Arg Gly
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 His Leu Thr Leu Phe Lys Gln Val Asp Tyr Glu Ile Thr Lys Ser Tyr
 305 310 315 320
 Glu Ile Asp Val Gln Ala Gln Asp Leu Gly Pro Asn Ser Ile Pro Ala
 325 330 335
 His Cys Lys Ile Ile Ile Lys Val Val Asp Val Asn Asp Asn Lys Pro
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 355 360 365
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 420 425 430
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515 520 525
Ala Leu Arg Ile Phe Asp His Glu Glu Val Ser Gln Ile Thr Phe Val
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Val Glu Ala Arg Asp Gly Gly Ser Pro Lys Gln Leu Val Ser Asn Thr
545 550 555 560
Thr Val Val Leu Thr Ile Ile Asp Glu Asn Asp Asn Val Pro Val Val
565 570 575
Ile Gly Pro Ala Leu Arg Asn Asn Thr Ala Glu Ile Thr Ile Pro Lys
580 585 590
Gly Ala Glu Ser Gly Phe His Val Thr Arg Ile Arg Ala Ile Asp Arg
595 600 605
Asp Ser Gly Val Asn Ala Glu Leu Ser Cys Ala Ile Val Ala Gly Asn
610 615 620
Glu Glu Asn Ile Phe Ile Ile Asp Pro Arg Ser Cys Asp Ile His Thr
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Asn Val Ser Met Asp Ser Val Pro Tyr Thr Glu Trp Glu Leu Ser Val
645 650 655
Ile Ile Gln Asp Lys Gly Asn Pro Gln Leu His Thr Lys Val Leu Leu
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Lys Cys Met Ile Phe Glu Tyr Ala Glu Ser Val Thr Ser Thr Ala Met
675 680 685
Thr Ser Val Ser Gln Ala Ser Leu Asp Val Ser Met Ile Ile Ile Ile
690 695 700
Ser Leu Gly Ala Ile Cys Ala Val Leu Leu Val Ile Met Val Leu Phe
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Ala Thr Arg Cys Asn Arg Glu Lys Lys Asp Thr Arg Ser Tyr Asn Cys
725 730 735
Arg Val Ala Glu Ser Thr Tyr Gln His His Pro Lys Arg Pro Ser Arg
740 745 750
Gln Ile His Lys Gly Asp Ile Thr Leu Val Pro Thr Ile Asn Gly Thr
755 760 765
Leu Pro Ile Arg Ser His His Arg Ser Ser Pro Ser Ser Ser Pro Thr
770 775 780

Leu Glu Arg Gly Gln Met Gly Ser Arg Gln Ser His Asn Ser His Gln
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 Ser Leu Asn Ser Leu Val Thr Ile Ser Ser Asn His Val Pro Glu Asn
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 Phe Ser Leu Glu Leu Thr His Ala Thr Pro Ala Val Glu Gln Val Ser
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 Gln Leu Leu Ser Met Leu His Gln Gly Gln Tyr Gln Pro Arg Pro Ser
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 Phe Arg Gly Asn Lys Tyr Ser Arg Ser Tyr Arg Tyr Ala Leu Gln Asp
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 Gly Asp Ser Asp Tyr Asp Leu Gly Arg Asp Ser Pro Ile Asp Arg Leu
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 Leu Gly Glu Gly Phe Ser Asp Leu Phe Leu Thr Asp Gly Arg Ile Pro
 900 905 910
 Ala Ala Met Arg Leu Cys Thr Glu Glu Cys Arg Val Leu Gly His Ser
 915 920 925
 Asp Gln Cys Trp Met Pro Pro Leu Pro Ser Pro Ser Ser Asp Tyr Arg
 930 935 940
 Ser Asn Met Phe Ile Pro Gly Glu Glu Phe Pro Thr Gln Pro Gln Gln
 945 950 955 960
 Gln His Pro His Gln Ser Leu Glu Asp Asp Ala Gln Pro Ala Asp Ser
 965 970 975
 Gly Glu Lys Lys Lys Ser Phe Ser Thr Phe Gly Lys Asp Ser Pro Asn
 980 985 990
 Asp Glu Asp Thr Gly Asp Thr Ser Ser Ser Leu Leu Ser Glu Met
 995 1000 1005
 Ser Ser Val Phe Gln Arg Leu Leu Pro Pro Ser Leu Asp Thr Tyr Ser
 1010 1015 1020
 Glu Cys Ser Glu Val Asp Arg Ser Asn Ser Leu Glu Arg Arg Lys Gly
 1025 1030 1035 1040
 Pro Leu Pro Ala Lys Thr Val Gly Tyr Pro Gln Gly Val Ala Ala Trp
 1045 1050 1055
 Ala Ala Ser Thr His Phe Gln Asn Pro Thr Thr Asn Cys Gly Pro Pro
 1060 1065 1070
 Leu Gly Thr His Ser Ser Val Gln Pro Ser Ser Lys Trp Leu Pro Ala
 1075 1080 1085
 Met Glu Glu Ile Pro Glu Asn Tyr Glu Glu Asp Asp Phe Asp Asn Val
 1090 1095 1100

Leu Asn His Leu Asn Asp Gly Lys His Glu Leu Met Asp Ala Ser Glu
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 <213> Homo sapiens

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 Ile Asp Ile Gln Thr Arg Met Ala Gly Arg Ala Leu Glu Leu Leu Tyr
 35 40 45
 Leu Pro Glu Asn Lys Pro Cys Tyr Leu Leu Asp Ile Gly Cys Gly Thr
 50 55 60
 Gly Leu Ser Gly Ser Tyr Leu Ser Asp Glu Gly His Tyr Trp Val Gly
 65 70 75 80
 Leu Asp Ile Ser Pro Ala Met Leu Asp Glu Ala Val Asp Arg Glu Ile
 85 90 95
 Glu Gly Asp Leu Leu Leu Gly Asp Met Gly Gln Gly Ile Pro Phe Lys

| | | |
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| Pro Gly Thr Phe Asp Gly Cys Ile Ser Ile Ser Ala Val His Trp Leu | | |
| 115 | 120 | 125 |
| Cys Asn Ala Asn Lys Lys Ser Glu Asn Pro Ala Lys Arg Leu Tyr Cys | | |
| 130 | 135 | 140 |
| Phe Phe Ala Ser Leu Phe Ser Val Leu Val Arg Gly Ser Arg Ala Val | | |
| 145 | 150 | 155 |
| 160 | | |
| Leu Gln Leu Tyr Pro Glu Asn Ser Glu Gln Leu Glu Leu Ile Thr Thr | | |
| 165 | 170 | 175 |
| Gln Ala Thr Lys Ala Gly Phe Ser Gly Gly Met Val Val Asp Tyr Pro | | |
| 180 | 185 | 190 |
| Asn Ser Ala Lys Ala Lys Lys Phe Tyr Leu Cys Leu Phe Ser Gly Pro | | |
| 195 | 200 | 205 |
| Ser Thr Phe Ile Pro Glu Gly Leu Ser Glu Asn Gln Asp Glu Val Glu | | |
| 210 | 215 | 220 |
| Pro Arg Glu Ser Val Phe Thr Asn Glu Arg Phe Pro Leu Arg Met Ser | | |
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| 240 | | |
| Arg Arg Gly Met Val Arg Lys Ser Arg Ala Trp Val Leu Glu Lys Lys | | |
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<211> 208

<212> PRT

<213> Homo sapiens

<400> 56

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Pro Thr Val Leu Arg Trp Ala Val Val Glu Ala Leu Leu Pro Ala Val
 35 40 45

Cys Gly Thr Ser Pro Ala Leu Phe Phe Pro Val Pro Ile Gly Ser Leu
 50 55 60

Arg Ala Arg Val Phe His Ser Lys Thr Val Leu Cys Asn Ser Phe Gln
 65 70 75 80

Gln Ser Asn Asn Pro Pro Leu Gln Arg Ser Ser Ser Leu Ile Gln Leu
 85 90 95

Thr Ser Gln Asn Ser Ser Pro Asn Gln Gln Arg Thr Pro Gln Val Ile
 100 105 110

Gly Val Met Gln Ser Gln Asn Ser Ser Gly Gly Asn Arg Gly Pro Gly
 115 120 125

His Trp Ser Arg Ser Pro Val Thr Ser Val Ala Arg Lys Asp Thr Thr
 130 135 140

Pro Thr Asp Ala Pro Lys Gly Thr Trp Pro Phe Ser Val Asp Ser Asp
 145 150 155 160

Ser Ser Trp Ser Gln Leu Arg Ala Ala Arg Gly Pro Arg Cys Trp Glu
 165 170 175

Cys Ala Phe Asn Cys Phe Met Arg Leu Leu Ala Arg Leu Trp Leu Glu
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Leu Ala Arg Arg His Val Gly Phe Ile Thr Leu Arg Gly His Val Cys
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<210> 57

<211> 4184

<212> DNA

<213> Homo sapiens

<400> 57

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<211> 306
<212> PRT
<213> Homo sapiens

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35 40 45
Lys Val Arg Arg Ser Thr Ser Arg Asp Arg Leu Asp Asp Ile Ile Val
50 55 60
Leu Thr Lys Asp Ile Gln Glu Gly Asp Thr Leu Asn Ala Ile Ala Leu
65 70 75 80
Gln Tyr Cys Cys Thr Val Ala Asp Ile Lys Arg Val Asn Asn Leu Ile
85 90 95
Ser Asp Gln Asp Phe Phe Ala Leu Arg Ser Ile Lys Ile Pro Val Lys
100 105 110
Lys Phe Ser Ser Leu Thr Glu Thr Leu Cys Pro Pro Lys Gly Arg Gln
115 120 125
Thr Ser Arg His Ser Ser Val Gln Tyr Ser Ser Glu Gln Gln Glu Ile
130 135 140
Leu Pro Ala Asn Asp Ser Leu Ala Tyr Ser Asp Ser Ala Gly Ser Phe
145 150 155 160
Leu Lys Glu Val Asp Arg Asp Ile Glu Gln Ile Val Lys Cys Thr Asp
165 170 175
Asn Lys Arg Glu Asn Leu His Glu Val Val Ser Ala Phe Thr Ala Gln
180 185 190
Gln Met Arg Phe Glu Pro Asp Asn Lys Asn Thr Gln Arg Lys Asp Pro
195 200 205
Tyr Tyr Gly Ala Asp Trp Gly Ile Gly Trp Trp Thr Ala Val Val Ile
210 215 220
Met Leu Ile Val Gly Ile Ile Thr Pro Val Phe Tyr Leu Leu Tyr Tyr

225 230 235 240
 Glu Ile Leu Ala Lys Val Asp Val Ser His His Ser Thr Val Asp Ser
 245 250 255
 Ser His Leu His Ser Lys Ile Thr Pro Pro Ser Gln Gln Arg Glu Met
 260 265 270
 Glu Asn Gly Ile Val Pro Thr Lys Gly Ile His Phe Ser Gln Gln Asp
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 Asp His Lys Leu Tyr Ser Gln Asp Ser Gln Ser Pro Ala Ala Gln Gln
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 <211> 3191
 <212> DNA
 <213> Homo sapiens

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<210> 60

<211> 568

<212> PRT

<213> Homo sapiens

<400> 60

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Arg Gly Ser Gln Ser Pro Lys Arg Tyr Lys Leu Arg Asp Asp Phe Glu
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Asp Lys Ala Lys Gly Arg Lys Glu Ser Glu Phe Asp Asp Glu Pro Lys
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Phe Met Ser Lys Val Ile Gly Ala Asn Lys Asn Gln Glu Glu Glu Lys
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Ser Gly Lys Trp Glu Gly Leu Val Tyr Ala Pro Pro Gly Lys Glu Lys
      85                      90                     95

Gln Arg Lys Thr Glu Glu Leu Glu Glu Glu Ser Phe Pro Glu Arg Ser
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      115                     120                    125

Val Pro Glu Lys Asn Phe Arg Val Thr Ala Tyr Lys Ala Val Gln Glu
      130                     135                    140

Lys Ser Ser Ser Pro Pro Pro Arg Lys Thr Ser Glu Ser Arg Asp Lys
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Leu Gly Ala Lys Gly Asp Phe Pro Thr Gly Lys Ser Ser Phe Ser Ile
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Thr Arg Glu Ala Gln Val Asn Val Arg Met Asp Ser Phe Asp Glu Asp
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 225 230 235 240
 Ala Gln His Ile Val Thr Ile Val His His Val Lys Glu His His Phe
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 Gly Ser Ser Gly Met Thr Leu His Glu Arg Phe Thr Lys Tyr Leu Lys
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 Arg Gly Thr Glu Gln Glu Ala Ala Lys Asn Lys Lys Ser Pro Glu Ile
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 His Arg Arg Ile Asp Ile Ser Pro Ser Thr Phe Arg Lys His Gly Leu
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 Gly Lys Tyr Lys Asp Asp Pro Val Asp Leu Arg Leu Asp Ile Glu Arg
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 Lys Thr Glu Lys Thr His Lys Gly Ser Lys Lys Gln Lys Lys His Pro
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 Arg Ala Arg Asp Arg Ser Arg Ser Ser Ser Ser Ser Ser Gln Ser Ser
 385 390 395 400
 His Ser Tyr Lys Ala Glu Glu Tyr Thr Glu Glu Thr Glu Glu Arg Glu
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 Glu Ser Thr Thr Gly Phe Asp Lys Ser Arg Leu Gly Thr Lys Asp Phe
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 Val Gly Pro Ser Glu Arg Gly Gly Gly Arg Ala Arg Gly Thr Phe Gln
 435 440 445
 Phe Arg Ala Arg Gly Arg Gly Trp Gly Arg Gly Asn Tyr Ser Gly Asn
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 Asn Asn Asn Asn Ser Asn Asn Asp Phe Gln Lys Arg Asn Arg Glu Glu
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 Glu Trp Asp Pro Glu Tyr Thr Pro Lys Ser Lys Lys Tyr Asn Leu His
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 Asp Asp Arg Glu Gly Glu Gly Ser Asp Lys Trp Val Ser Arg Gly Arg
 500 505 510

Gly Arg Gly Ala Phe Pro Arg Gly Arg Gly Arg Phe Met Phe Arg Lys
 515 520 525

Ser Ser Thr Ser Pro Lys Trp Ala His Asp Lys Phe Ser Gly Glu Glu
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Asp Asn Ile Gln Pro Thr Thr Glu
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<211> 3145

<212> DNA

<213> Homo sapiens

<400> 61

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<210> 62

<211> 574

<212> PRT

<213> Homo sapiens

<400> 62

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Lys Gln Glu Asp Ala Ser Lys Arg Gly Gly Ser Leu Arg Pro Ala His
          35              40              45

```

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Tyr Ser Asp Val Val Asp Glu Arg Ser Ile Val Lys Leu Cys Gly Tyr
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Pro Leu Cys Gln Lys Lys Leu Gly Ile Val Pro Lys Gln Lys Tyr Lys
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Ile Ser Thr Lys Thr Asn Lys Val Tyr Asp Ile Thr Glu Arg Lys Ser
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Ile Ser Thr Lys Thr Asn Lys Val Tyr Asp Ile Thr Glu Arg Lys Ser
          85              90              95

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Phe Cys Ser Asn Phe Cys Tyr Gln Ala Ser Lys Phe Phe Glu Ala Gln
          100              105              110

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Ile Pro Lys Thr Pro Val Trp Val Arg Glu Glu Glu Arg His Pro Asp
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Phe Gln Leu Leu Lys Glu Glu Gln Ser Gly His Ser Gly Glu Glu Val
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Gln Leu Cys Ser Lys Ala Ile Lys Thr Ser Asp Ile Asp Asn Pro Ser
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His Phe Glu Lys Gln Tyr Glu Ser Ser Ser Ser Thr His Ser Asp
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Ser Ser Ser Asp Asn Glu Gln Asp Phe Val Ser Ser Ile Leu Pro Gly
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Asn Arg Pro Asn Ser Thr Asn Ile Arg Pro Gln Leu His Gln Lys Ser
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 245 250 255
 Val Asn Thr Gln Ser Ser Ser Asn Ser Thr Leu Pro Glu Arg Leu Lys
 260 265 270
 Ala Ser Glu Asn Ser Glu Ser Glu Tyr Ser Arg Ser Glu Ile Thr Leu
 275 280 285
 Val Gly Ile Ser Lys Lys Ser Ala Glu His Phe Lys Arg Lys Phe Ala
 290 295 300
 Lys Ser Asn Gln Val Ser Arg Ser Val Ser Asn Ser Val Gln Val Cys
 305 310 315 320
 Pro Glu Val Gly Lys Arg Asn Leu Leu Lys Val Leu Lys Glu Thr Leu
 325 330 335
 Ile Glu Trp Lys Thr Glu Glu Thr Leu Arg Phe Leu Tyr Gly Gln Asn
 340 345 350
 Tyr Ala Ser Val Cys Leu Lys Pro Glu Ala Ser Leu Val Lys Glu Glu
 355 360 365
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 370 375 380
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 385 390 395 400
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 405 410 415
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 420 425 430
 Tyr Val Leu Gly Glu Glu Thr Thr Lys Ser Gln Asp Ser Glu Glu His
 435 440 445
 Asp Ser Thr Phe Pro Leu Ile Asp Ser Ser Ser Gln Asn Gln Ile Arg
 450 455 460
 Lys Arg Ile Val Leu Glu Lys Leu Ser Lys Val Leu Pro Gly Leu Leu
 465 470 475 480
 Val Pro Leu Gln Ile Thr Leu Gly Asp Ile Tyr Thr Gln Leu Lys Asn
 485 490 495
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 Ala Glu Trp Thr Leu Ile Ala Met Val Leu Leu Ser Leu Leu Thr Pro
 515 520 525

Ile Leu Gly Ile Gln Lys His Ser Gln Glu Gly Met Val Phe Thr Arg
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 <212> PRT
 <213> Homo sapiens

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Ser Ile Phe Phe Phe Phe Leu Ser Pro Asn Leu Asn Arg Ser Lys Met
 35 40 45

Cys Ser Gly Ile Pro Gly Asn Arg Cys Val Cys Lys Val Lys Asn Arg
 50 55 60

Leu Phe Arg Asn Ser Leu Phe Arg Tyr Leu His Pro Ala Ser His Val
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Lys Tyr Leu Ser Leu Lys Gly Leu Arg Cys Thr Ser Phe Ile Ser Tyr
 85 90 95

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 <212> DNA
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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Ile | Tyr | Leu | Leu | Ser | Ser | Pro | Pro | Thr | Pro | Pro | Pro | Pro | Trp | Leu | Pro | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 35 | | | | | 40 | | | | | | 45 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ser | Leu | Met | Thr | Ala | Trp | Ile | Leu | Leu | Pro | Val | Ser | Leu | Ser | Ala | Phe | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 50 | | | | 55 | | | | | 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ser | Ile | Thr | Gly | Ile | Trp | Thr | Val | Tyr | Ala | Met | Ala | Val | Met | Asn | His | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 65 | | | 70 | | | | | 75 | | | | | 80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| His | Val | Cys | Pro | Val | Glu | Asn | Trp | Ser | Tyr | Asn | Glu | Ser | Cys | Pro | Pro | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 85 | | | | 90 | | | | | | 95 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Asp | Pro | Ala | Glu | Gln | Gly | Gly | Pro | Lys | Thr | Cys | Cys | Thr | Leu | Asp | Asp | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 100 | | | | 105 | | | | | | 110 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Val | Pro | Leu | Ile | Ser | Lys | Cys | Gly | Ser | Tyr | Pro | Pro | Glu | Ser | Cys | Leu | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 115 | | | | 120 | | | | | | 125 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Phe | Ser | Leu | Ile | Gly | Asn | Met | Gly | Ala | Phe | Met | Val | Ala | Leu | Ile | Cys | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 130 | | | 135 | | | | | 140 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Leu | Leu | Arg | Tyr | Gly | Gln | Leu | Leu | Glu | Gln | Ser | Arg | His | Ser | Trp | Val | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 145 | | | 150 | | | | | 155 | | | | 160 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Asn | Thr | Thr | Ala | Leu | Ile | Thr | Gly | Cys | Thr | Asn | Ala | Ala | Gly | Leu | Leu | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 165 | | | 170 | | | | | | 175 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Val | Val | Gly | Asn | Phe | Gln | Val | Asp | His | Ala | Arg | Ser | Leu | His | Tyr | Val | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 180 | | | | 185 | | | | | | 190 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gly | Ala | Gly | Val | Ala | Phe | Pro | Ala | Gly | Leu | Leu | Phe | Val | Cys | Leu | His | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 195 | | | | 200 | | | | | 205 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cys | Leu | Ser | Pro | Thr | Lys | Gly | Pro | Pro | Pro | Arg | Trp | Thr | Trp | Leu | Trp | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 210 | | | | 215 | | | | | 220 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pro | Ile | Cys | Glu | Val | Cys | Trp | Leu | Ser | Ser | Pro | Leu | Ser | Pro | Trp | Ser | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 225 | | | 230 | | | | | 235 | | | | 240 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ser | Val | Glu | Ser | Ser | Leu | Ser | Met | Arg | Val | Leu | Ser | Cys | Asn | Met | Gly | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 245 | | | | 250 | | | | | 255 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gln | Pro | Cys | Val | Ser | Gly | Cys | Val | Ser | Ser | Ile | Ser | Ser | Phe | Ser | Met | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Ala | Pro | Ser | Ala | Thr | Ser | Leu | Gly | Gln | Ser | Pro | Gln | Thr | His | Trp | Trp | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Leu | His | Cys | Ser | Leu | Pro | Leu | Ala | Gly | Pro | Ala | Ser | Pro | Pro | Gly | Ala | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 290 | | | | 295 | | | | 300 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ala | Ala | Leu | His | Pro | Pro | Gln | Leu | Cys | Pro | Arg | Glu | His | Arg | Tyr | Asp | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 305 | | | 310 | | | | | 315 | | | | 320 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Leu | Arg | Ser | Gly | Glu | Gly | Gly | Trp | Pro | Gly | Ser | Thr | Ala | Pro | His | Pro | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 325 | | | | 330 | | | | | | 335 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ile | Ser | Ser | Phe | His | Leu | Phe | Arg | Thr | Lys | Asn | Asn | Phe | Glu | Lys | Val | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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 370 375 380

 His Asp Leu Leu Pro Thr Pro Arg Cys Arg Phe Val Phe Lys Gly His
 385 390 395 400

 Leu Ser Ser Leu Thr Gln Pro Ala Leu Gln Val Pro Ser Thr Pro Ser
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 Ala Lys Ala Arg Pro Leu Gly Phe Pro Ala Ala Gly Ile Gly Gly Trp
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35 40 45
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50 55 60
Glu Tyr Ile Pro Gly Thr Thr Ser Leu Gly Met Phe Val Phe Asn Leu
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Ser Asn Ser Met Met Gly Ser Gly Ile Trp Asp Ser Leu Cys Pro Gly
85 90 95
Asn Thr Gly Ile Leu Leu Phe Leu Val Leu Leu Thr Ser Val Thr Leu
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Leu Ser Ile Tyr Ser Ile Asn Leu Leu Leu Ile Cys Ser Lys Glu Thr
115 120 125
Gly Cys Met Val Tyr Glu Lys Leu Gly Glu Gln Val Phe Gly Thr Thr
130 135 140
Gly Lys Phe Val Ile Phe Gly Ala Thr Ser Leu Gln Asn Thr Gly Ala
145 150 155 160
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165 170 175
Lys Phe Leu Met Gly Lys Glu Glu Thr Phe Ser Ala Trp Tyr Val Asp
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Gly Arg Val Leu Val Val Ile Val Thr Phe Gly Ile Ile Leu Pro Leu
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Cys Leu Leu Lys Asn Leu Gly Tyr Leu Gly Tyr Thr Ser Gly Phe Ser
210 215 220
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225 230 235 240
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 <213> Homo sapiens

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<210> 70

<211> 153

<212> PRT

<213> Homo sapiens

<400> 70

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| Lys | Phe | His | Ser | Ile | Ile | Phe | His | Val | Ser | Ser | Gly | Leu | Lys | Ser | Phe |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Ala | Asn | Lys | Met | Phe | Ile | Gly | Trp | Ser | Gln | Leu | Thr | Met | Tyr | Tyr | Trp |
| | | 35 | | | | | 40 | | | | | | 45 | | |
| Gln | His | Phe | Leu | Asp | Gly | Tyr | Leu | Leu | Gly | Pro | Phe | Ile | Arg | Lys | Arg |
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| Glu | Arg | Met | Gly | Trp | Phe | Cys | Met | Gly | Ser | Cys | Leu | Gly | Val | Lys | Ile |
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| | | | 85 | | | | | | 90 | | | | | 95 | |
| Ile | Pro | Ile | Leu | Gly | Leu | Val | Leu | Arg | Thr | Leu | Tyr | Met | Cys | Leu | Phe |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Thr | Ser | Gly | Leu | Pro | Ala | Ile | Ala | Phe | Leu | Pro | Phe | Phe | Pro | Ile | Leu |
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| Arg | Ile | Lys | Lys | Lys | Asn | Tyr | Arg | Ala | Ser | Lys | Gly | Gly | Arg | Lys | |

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135

140

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<210> 71

<211> 2020

<212> DNA

<213> Homo sapiens

<400> 71

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<211> 104

<212> PRT

<213> Homo sapiens

<400> 72

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Gln Pro Ser Thr Ile Cys Ser Pro Ile Leu Leu Arg Gly Gln Pro Ser

35

40

45

Leu Gly His Pro Leu Phe Pro Ser Ser Ser Ala Pro Thr Gln Val Thr
50 55 60

Asp Pro Ala Asp Ser Phe Ser Leu Gly Lys Val Gly Cys Cys Leu Thr
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Ser Pro Ser Ser Pro Pro Pro Ile His Thr His Arg His Pro Pro Thr
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Pro Gly Arg Leu Val Ser His Met
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<210> 73

<211> 760

<212> DNA

<213> Homo sapiens

<400> 73

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<210> 74

<211> 102

<212> PRT

<213> Homo sapiens

<400> 74

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Ile Val Gly Phe Ile Tyr Gly Tyr Val Ala Glu Gln Phe Gly Trp Thr
35 40 45

Val Tyr Ile Val Met Ala Gly Phe Ala Phe Ser Cys Leu Leu Thr Leu
50 55 60

Pro Pro Trp Pro Ile Tyr Arg Arg His Pro Leu Lys Trp Leu Pro Val
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Gln Glu Ser Ser Thr Asp Asp Lys Lys Pro Gly Glu Arg Lys Ile Lys
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Arg His Ala Lys Asn Asn

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 <211> 875
 <212> DNA
 <213> Homo sapiens

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 35 40 45
 Leu Gly Leu Cys Trp Arg Arg Ser Pro Ser Phe Trp Val Gln Thr Ala
 50 55 60
 Pro Pro Asp Ala Val Leu Met Ser Ile Phe Gln Glu Arg Asp Gly Leu
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 Gly Ser Arg Glu Trp Arg Gly Leu Pro Leu Pro Cys Arg Ser Trp Pro
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a a a c g t t g t g   t g a c g t g a t c   c t c a t g g t c c   a g g a a g a a a   g a t a c c t g c t   c a t c g t g t t g   120
t t c t t g c t g c   a g c c a g t c a t   t t t t t t a a c t   t a a t g t t c a c   a a c t a a c a t g   c t t g a a t c a a   180
a g t c c t t t g a   a g t a g a a c t c   a a a g a t g c t g   a a c c t g a t a t   t a t t g a a c a a   c t g g t g g a a t   240
t t g c t t a t a c   t g c t a g a a t t   t c c g t g a a t a   g c a a c a a t g t   t c a g t c t t t g   c t g g a t g c a g   300
c a a a c c a a t a   t c a g a t t g a a   c c t g t g a a g a   a a a t g t g t g t   t g a t t t t t t g   a a a g a a c a a g   360
t t g a t g c t t c   a a a t t g t c t t   g g t a t a a g t g   t g c t a g c g g a   g t g t c t a g a t   t g t c c t g a a t   420
t g a a a g c a a c   t g c a g a t g a c   t t t a t t c a t c   a g c a c t t t t a c   t g a a g t t t a c   a a a a c t g a t g   480
a a t t t c t t c a   a c t t g a t g t c   a a g c g a g t a a   c a c a t c t t c t   c a a c c a g g a c   a c t c t g a c t g   540
t g a g a g c a g a   g g a t c a g g t t   t a t g a t g c t g   c a g t c a g g t g   g t t g a a a t a c   g a t g a a c c t a   600
a t c g c c a g c c   a t t t a t g g t t   g a t a t c c t t g   c t a a a g t c a g   g t t t c c t c t t   a t a t c a a a g a   660
a t t t c t t a a g   t a a a a c g g t a   c a a g t g a a c   c a c t t a t t c a   a g a c a a t c c t   g a a t g c c t t a   720
a g a t g g t g a t   a a g t g g a a t g   a g g t a c c a t c   t a c t g t c t c c   a g a g g a c c g a   g a a g a a c t t g   780
t a g a t g g c c c   a a g a c c t a g a   a g a a a g a a a c   a t g a c t a c c g   c a t a g c c c t a   t t t g g a g g c t   840
c t c a a c c a c a   g t c t t g t a g a   t a t t t t a a c c   c c a a g g a t t a   t a g c t g g a c a   g a c a t c c g c t   900
g c c c c t t t g a   a a a a c c a a g a   g a t g c a g c a t   g c g t g t t t t g   g g a c a a t g t a   g t a t a c a t t t   960
t g g g a g g c t c   t c a g c t t t t c   c c a a t a a a g c   g a a t g g a c t g   c t a t a a t g t a   g t g a a g g a t a   1020
g c t g g t a t t c   g a a a c t g g g t   c c t c c g a c a c   c t c g a g a c a g   c c t t g e t g c a   t g t g c t g c a g   1080
a a g g c a a a a t   t t a t a c a t c t   g g a g g t t c a g   a a g t a g g a a a   c t c a g c t c t g   t a t t t a t t t g   1140
a g t g c t a t g a   t a c g a g a a c t   g a a a g c t g g c   a c a c a a a g c c   c a g c a t g c t g   a c c c a g c g c t   1200
g c a g c c a t g g   g a t g g t g g a a   g c c a a t g g c c   t a a t c t a t g t   t t g t g g t g g a   a g t t t a g g a a   1260
a c a a t g t t t c   t g g g a g a g t g   c t t a a t t c c t   g t g a a g t t t a   t g a t c c t g c c   a c a g a a a c a t   1320
g g a c t g a g c t   g t g t c c a a t g   a t t g a a g c c a   g g a a g a a t c a   t g g g c t g g t a   t t t g t a a a a g   1380
a c a a g a t a t t   t g c t g t g g g t   g g t c a g a a t g   g t t t a g g t g g   t c t g g a c a a t   g t g g a a t a t t   1440
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g a t t a g g a c a   c a t t c t c c a a   t a t a a t a c c g   a a a c a g a c a a   a t g g g t t g c c   a a c t c c c a a g   1620
t t c g t g c t t t   t c c a g t c a c a   a a g t t g t t t a   a t t t g t g t t g   t c g a t a c t t g   t g g a g c a a a t   1680
g a a g a g a c c c   t t g a a a c a t g   a a a a a t g a g t   g g a c t t c a g a   c t c a t c a g a g   a c t c t a a a a t   1740
a t a g c c a c c a   g t g c t t t g t t   c c a g g a g t t t   g g t g a c a a a g   t t t t g g t t t g   g t g t t t t g g t   1800
a a a g a a a g t t   t c a a g t g a a a   t g a g g t t c c t   a t a a a a t a g a   t g t t t c t t t t   a t a t g g a t t t   1860
c c t t a a t t c a   a a g a t c a t a t   t t t a g c t g g c   c a c a a a a c c a   a g a a c a t a t c   t a g c a a g a a a   1920
a c t t g a a a a a   g t a t a a g c a t   t t g t t a a a a a   t g t g a a t t t c   t t g a a t g a a t   t t c a c a t t t g   1980
t a a c t a t g a t   t t t g g c a g a a   t a g a a g a t t g   g c t c a t c a g t   g a a g c g c a g t   a t c t t a g c t c   2040
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g t g g t t a a a a   a a g g a t t c t g   c c t c t t t a g t   c c t c c c t g t t   a a a t a a a a c c   c a a t c a t a g t   2460
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c g g g g n g g t t   g a a c a a t a a c   a g t g t t g a c t   t t g a a c t t c t   t t a a c g a g a t   c a t g a a t t c t   2580
t t t c c c t t a g   c c a a a a c a t g   a a a t a t t t a a   c c t a g t t g t c   t c t a a a a g t t   t t g t a a t c a t   2640
g a g t t a g a t a   t a t g t c a t c t   c c t a t t c a t t   g c t t t t a t g t   g a t c a a t a a a   t c t t t t a c a a   2700
a c c c a a c t a c   t c a t t t c c t t   c c t a g t a a t a   c t t t g c c t t t   t t c a c t g t g t   a t g g a a t g a a   2760
a c a t g t a a a g   c t g t c a c a a t   c a a t g t t t t t   a t c t g a t a a t   a t t a a a t a t t   t t t t a a c t t c   2820
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<212> PRT

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 50 55 60
 Asn Val Gln Ser Leu Leu Asp Ala Ala Asn Gln Tyr Gln Ile Glu Pro
 65 70 75 80
 Val Lys Lys Met Cys Val Asp Phe Leu Lys Glu Gln Val Asp Ala Ser
 85 90 95
 Asn Cys Leu Gly Ile Ser Val Leu Ala Glu Cys Leu Asp Cys Pro Glu
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 115 120 125
 Tyr Lys Thr Asp Glu Phe Leu Gln Leu Asp Val Lys Arg Val Thr His
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 Asp Ala Ala Val Arg Trp Leu Lys Tyr Asp Glu Pro Asn Arg Gln Pro
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 Asn Phe Leu Ser Lys Thr Val Gln Ala Glu Pro Leu Ile Gln Asp Asn
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 Pro Glu Cys Leu Lys Met Val Ile Ser Gly Met Arg Tyr His Leu Leu
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 Ser Pro Glu Asp Arg Glu Glu Leu Val Asp Gly Pro Arg Pro Arg Arg
 225 230 235 240
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 Ser Cys Arg Tyr Phe Asn Pro Lys Asp Tyr Ser Trp Thr Asp Ile Arg
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 Cys Pro Phe Glu Lys Pro Arg Asp Ala Ala Cys Val Phe Trp Asp Asn
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Tyr Thr Ser Gly Gly Ser Glu Val Gly Asn Ser Ala Leu Tyr Leu Phe
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 Tyr Val Cys Gly Gly Ser Leu Gly Asn Asn Val Ser Gly Arg Val Leu
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 Cys Pro Met Ile Glu Ala Arg Lys Asn His Gly Leu Val Phe Val Lys
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 Asp Lys Ile Phe Ala Val Gly Gly Gln Asn Gly Leu Gly Gly Leu Asp
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<211> 525

<212> PRT

<213> Homo sapiens

<400> 80

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35 40 45

His Leu Thr Leu Leu Lys Phe Phe Phe Asn Leu Ile Glu Ser Glu Val
50 55 60

Gln His Leu Ser Gln Lys Leu Tyr Asp Trp Ser Asp Ser Gln Asn Leu
65 70 75 80

Lys Ile Thr Gly Lys Ala Met Leu Leu Glu Ile Phe Trp Ser Gly Ser
85 90 95

Glu Thr Ser Gly Leu Leu Thr Lys Pro Val Asn Met Leu Leu Glu Trp
100 105 110

Thr Ile Tyr Ser His Lys Glu Lys Phe Lys Ser Asn Asp Thr Phe Leu
115 120 125

Pro Gln Glu Leu Glu Ile Phe Ile Cys Ser Phe Ser Ser Ser Trp Leu
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 Val Ser Pro Gln Ile Lys Glu Glu Leu Phe Ala Ile Thr Lys Ile Glu
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 405 410 415
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 420 425 430
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Gly Leu Thr His Leu Asn Glu Leu Leu Met Ala Cys Lys Ser His Lys
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Asn Ile Lys Thr Leu Gln Lys Leu Pro His Ile Leu Lys Glu Leu Pro
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<210> 82

<211> 490

<212> PRT

<213> *Homo sapiens*

<400> 82

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 20 25 30

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 35 40 45

Leu Pro Leu Ser Ala Thr Cys Ala Leu Phe Glu Val Met Ser Thr Pro
 50 55 60

Ala Ala Gly Pro Ala Val Leu Glu Leu Tyr Pro Gln Leu Phe Val Val
 65 70 75 80

Leu Leu Leu Arg Val Ser Cys Thr Val Gly Val Gln Leu Pro Arg Asn
 85 90 95

Leu Gln Ala Gln Glu Arg Arg Gly Ala Ser Pro Ala Leu Ala Thr Arg
 100 105 110

Asn Leu Glu Pro Cys Ser Ser Ala Val Asp Thr Leu Arg Ser Met Leu
 115 120 125

Leu Arg Ser Gly Ser Glu Asp Val Val Gln Arg Met Asp Leu Glu Gly
 130 135 140

Gly Trp Glu Leu Leu Arg Thr Ser Ala Gly His Glu Glu Gly Ala Thr
 145 150 155 160

Arg Leu Ala Arg Ala Met Ala Glu His Ala Gly Pro Arg Leu Pro Leu
 165 170 175

Val Leu Lys Thr Leu Ala Cys Thr His Ser Ser Ala Tyr Glu Asn Gln
 180 185 190

Arg Val Thr Thr Thr Ala Phe Leu Ala Glu Leu Leu Asn Ser Asn Val
 195 200 205

Ala Asn Asp Leu Met Leu Leu Asp Ser Leu Leu Glu Ser Leu Ala Ala
 210 215 220
 Arg Gln Lys Asp Thr Cys Ala Ser Val Arg Arg Leu Val Leu Arg Gly
 225 230 235 240
 Leu Ala Asn Leu Ala Ser Gly Cys Pro Asp Lys Val Arg Thr His Gly
 245 250 255
 Pro Gln Leu Leu Thr Ala Met Ile Gly Gly Leu Asp Asp Gly Asp Asn
 260 265 270
 Pro His Ser Pro Val Ala Leu Glu Ala Met Leu Gly Leu Ala Arg Leu
 275 280 285
 Val His Leu Val Glu Ser Trp Asp Leu Arg Ser Gly Leu Leu His Val
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 Ala Ile Arg Ile Arg Pro Phe Phe Asp Ser Glu Lys Met Glu Phe Arg
 305 310 315 320
 Thr Ala Ser Ile Arg Leu Phe Gly His Leu Asn Lys Val Cys His Gly
 325 330 335
 Asp Cys Glu Asp Val Phe Leu Asp Gln Val Val Gly Gly Leu Ala Pro
 340 345 350
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 355 360 365
 Arg Phe Ala Leu Arg Met Cys Gly Pro Asn Leu Ala Cys Glu Glu Leu
 370 375 380
 Ser Ala Ala Phe Gln Lys His Leu Gln Glu Gly Arg Ala Leu His Phe
 385 390 395 400
 Gly Glu Phe Leu Asn Thr Thr Cys Lys His Leu Met His His Phe Pro
 405 410 415
 Asp Leu Leu Gly Arg Leu Leu Thr Thr Cys Leu Phe Tyr Phe Lys Ser
 420 425 430
 Ser Trp Glu Asn Val Arg Ala Ala Ala Pro Leu Phe Thr Gly Lys His
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 His Pro Leu Pro His Pro His Ala Ala Arg Gln Pro Arg Leu Met Pro
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 Ala Gly Gly Pro Gly Pro Ala His Cys Gly
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 <211> 1476
 <212> DNA
 <213> Homo sapiens

<400> 83
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<210> 84

<211> 382

<212> PRT

<213> Homo sapiens

<400> 84

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35 40 45
Arg Ser Ile Thr Ala Pro Leu Ala Ala His Ile Ser Leu Val Asn Lys
50 55 60
Ala Ala Val Asp Tyr Phe Phe Val Glu Leu His Leu Glu Ala His Tyr
65 70 75 80
Glu Ala Leu Arg His Phe Leu Leu Met Glu Asp Gly Glu Phe Ala Gln
85 90 95
Ser Leu Ser Asp Leu Leu Phe Glu Lys Leu Gly Ala Gly Gln Thr Pro
100 105 110
Arg Arg Ala Ala Gln Pro Ala Gly Ala Glu Leu Cys Ala Asp Lys Ala
115 120 125
Leu Gln Cys Ser Leu His Gly Asp Thr Pro His Ala Ser Asn Leu Ser
130 135 140

Leu Ala Leu Lys Tyr Leu Pro Glu Val Phe Ala Pro Asn Ala Pro Asp
 145 150 155 160
 Val Leu Ser Cys Leu Glu Leu Arg Tyr Lys Val Asp Trp Pro Leu Asn
 165 170 175
 Ile Val Ile Thr Glu Gly Cys Leu Ser Lys Tyr Ser Gly Val Phe Ser
 180 185 190
 Phe Leu Leu Gln Leu Lys Leu Met Met Trp Ala Leu Lys Asp Val Cys
 195 200 205
 Phe His Leu Lys Arg Thr Ala Leu Leu Ser His Met Ala Gly Ser Val
 210 215 220
 Gln Phe Arg Gln Leu Gln Leu Phe Lys His Glu Met Gln His Phe Val
 225 230 235 240
 Lys Val Ile Gln Gly Tyr Ile Ala Asn Gln Ile Leu His Val Thr Trp
 245 250 255
 Cys Glu Phe Arg Ala Arg Leu Ala Thr Val Gly Asp Leu Glu Glu Ile
 260 265 270
 Gln Arg Ala His Ala Glu Tyr Leu His Lys Ala Val Phe Arg Gly Leu
 275 280 285
 Leu Thr Glu Lys Ala Ala Pro Val Met Asn Val Ile His Ser Ile Phe
 290 295 300
 Ser Leu Val Leu Lys Phe Arg Ser Gln Leu Ile Ser Gln Ala Trp Gly
 305 310 315 320
 Pro Pro Gly Gly Pro Arg Gly Ala Glu His Pro Asn Phe Ala Leu Met
 325 330 335
 Gln Gln Ser Tyr Asn Thr Phe Lys Tyr Tyr Ser His Phe Leu Phe Lys
 340 345 350
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 355 360 365
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<210> 85

<211> 1212

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> (1146)..(1147)

<400> 85

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<210> 86

<211> 167

<212> PRT

<213> Homo sapiens

<400> 86

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Gly Leu Phe Phe Val Phe Met Gly Thr Ile Lys Leu Thr Pro Arg Leu
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Ser Lys Asp Ala Tyr Ser Glu Met Lys Arg Ala Tyr Lys Ser Tyr Val
 35 40 45

Arg Ala Leu Pro Leu Leu Lys Lys Met Gly Ile Asn Ser Ile Leu Leu
 50 55 60

Arg Lys Ser Ile Gly Ala Leu Glu Val Ala Cys Gly Ile Val Met Thr
 65 70 75 80

Leu Val Pro Gly Arg Pro Lys Asp Val Ala Asn Phe Phe Leu Leu Leu
 85 90 95

Leu Val Leu Ala Val Leu Phe Phe His Gln Leu Val Gly Asp Pro Leu
 100 105 110

Lys Arg Tyr Ala His Ala Leu Val Phe Gly Ile Leu Leu Thr Cys Arg
 115 120 125

Leu Leu Ile Ala Arg Lys Pro Glu Asp Arg Ser Ser Glu Lys Lys Pro
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Leu Pro Gly Asn Ala Glu Glu Gln Pro Ser Leu Tyr Glu Lys Ala Pro
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Gln Gly Lys Val Lys Val Ser
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<210> 87

<211> 1059

<212> DNA
 <213> Homo sapiens

<400> 87

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<210> 88
 <211> 192
 <212> PRT
 <213> Homo sapiens

<400> 88

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Met Thr Lys Gly Ile Thr Phe Leu Asn Leu Asp Tyr Tyr Val Ala Val
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Tyr Leu Pro Gly His Phe Phe His Leu Leu Asn Val Gln His Pro Asp
      20             25             30

Leu Ile Cys His Asn Leu Phe Leu Thr Gly Asn Asn Glu Met Ile Asp
      35             40             45

Met Leu Pro His Cys Pro Leu Gln Ser Leu Ser Gly Ser Leu Val Leu
      50             55             60

Asp Cys Cys Ser Gly Lys Leu Tyr Arg Ala Leu Leu Ser Gln Ser Ser
      65             70             75            80

Leu Leu Gln Leu Leu Gln Asn Thr Cys Leu Asp Cys Glu Lys Met Ala
      85             90             95

Ala Leu His Cys Ala Leu Tyr Cys Gly Gln Gly Ala Gln Phe Leu Glu
      100            105            110

Ala Gln Ile Ile Gln Trp Ile Ser Glu Asn Val Ser Ala Cys His Ser
      115            120            125

Phe Asp Leu Ile Gln Glu Phe Ile Ile Ala Ser Ser Tyr Trp Ser Val
      130            135            140

Tyr Ser Glu Thr Ser Asn Met Asp Lys Leu Leu Pro His Ser Ser Val
      145            150            155            160

Leu Thr Trp Asn Thr Glu Ile Pro Gly Ile Thr Leu Val Thr Glu Asp

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165

170

175

Ile Ala Leu Pro Leu Met Lys Val Leu Lys Asn Val Leu Gly Ser Lys
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<210> 89

<211> 2529

<212> DNA

<213> Homo sapiens

<400> 89

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<210> 90

<211> 244

<212> PRT

<213> Homo sapiens

<400> 90

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20 25 30

Lys Lys Trp Phe Pro Tyr Phe Leu Val Arg Phe Thr Val Ile Tyr Asn
35 40 45

Glu Gln Met Ala Ser Lys Lys Arg Glu Leu Phe Ser Asn Leu Gln Glu
50 55 60

Phe Ala Gly Pro Ser Gly Lys Leu Ser Leu Leu Glu Val Gly Cys Gly
65 70 75 80

Thr Gly Ala Asn Phe Lys Phe Tyr Pro Pro Gly Cys Arg Val Thr Cys
85 90 95

Ile Asp Pro Asn Pro Asn Phe Glu Lys Phe Leu Ile Lys Ser Ile Ala
100 105 110

Glu Asn Arg His Leu Gln Phe Glu Arg Phe Val Val Ala Ala Gly Glu
115 120 125

Asn Met His Gln Val Ala Asp Gly Ser Val Asp Val Val Val Cys Thr
130 135 140

Leu Val Leu Cys Ser Val Lys Asn Gln Glu Arg Ile Leu Arg Glu Val
145 150 155 160

Cys Arg Val Leu Arg Pro Gly Gly Ala Phe Tyr Phe Met Glu His Val
165 170 175

Ala Ala Glu Cys Ser Thr Trp Asn Tyr Phe Trp Gln Gln Val Leu Asp
180 185 190

Pro Ala Trp His Leu Leu Phe Asp Gly Cys Asn Leu Thr Arg Glu Ser
195 200 205

Trp Lys Ala Leu Glu Arg Ala Ser Phe Ser Lys Leu Lys Leu Gln His
210 215 220

Ile Gln Ala Pro Leu Ser Trp Glu Leu Val Arg Pro His Ile Tyr Gly
225 230 235 240

Tyr Ala Val Lys

<210> 91

<211> 2390

<212> DNA

<213> Homo sapiens

<400> 91

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<210> 92

<211> 212

<212> PRT

<213> Homo sapiens

<400> 92

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20 25 30

Thr Leu Val Val Ala Gly Met Val Gly Ser Ile Leu Cys Gly Leu Trp
35 40 45

Leu Asp Tyr Thr Lys Thr Tyr Lys Gln Thr Thr Leu Ile Val Tyr Ile
50 55 60

Leu Ser Phe Ile Gly Met Val Ile Phe Thr Phe Thr Leu Asp Leu Arg
65 70 75 80

Tyr Ile Ile Ile Val Phe Val Thr Gly Gly Val Leu Gly Phe Phe Met

85

90

95

Thr Gly Tyr Leu Pro Leu Gly Phe Glu Phe Ala Val Glu Ile Thr Tyr
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Pro Glu Ser Glu Gly Thr Ser Ser Gly Leu Leu Asn Ala Ser Ala Gln
115 120 125

Ile Phe Gly Ile Leu Phe Thr Leu Ala Gln Gly Lys Leu Thr Ser Asp
130 135 140

Tyr Gly Pro Lys Ala Gly Asn Ile Phe Leu Cys Val Trp Met Phe Ile
145 150 155 160

Gly Ile Ile Leu Thr Ala Leu Ile Lys Ser Asp Leu Arg Arg His Asn
165 170 175

Ile Asn Ile Gly Ile Thr Asn Val Asp Val Lys Ala Ile Pro Ala Asp
180 185 190

Ser Pro Thr Asp Gln Glu Pro Lys Thr Val Met Leu Ser Lys Gln Ser
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Glu Ser Ala Ile
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<210> 93

<211> 2922

<212> DNA

<213> Homo sapiens

<400> 93

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<210> 94

<211> 451

<212> PRT

<213> Homo sapiens

<400> 94

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Met Ala Thr Tyr Thr Cys Ile Thr Cys Arg Val Ala Phe Arg Asp Ala
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Asp Met Gln Arg Ala His Tyr Lys Thr Asp Trp His Arg Tyr Asn Leu
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Arg Arg Lys Val Ala Ser Met Ala Pro Val Thr Ala Glu Gly Phe Gln
      35             40             45

Glu Arg Val Arg Ala Gln Arg Ala Val Ala Glu Glu Glu Ser Lys Gly
      50             55             60

Ser Ala Thr Tyr Cys Thr Val Cys Ser Lys Lys Phe Ala Ser Phe Asn
      65             70             75             80

Ala Tyr Glu Asn His Leu Lys Ser Arg Arg His Val Glu Leu Glu Lys
      85             90             95

Lys Ala Val Gln Ala Val Asn Arg Lys Val Glu Met Met Asn Glu Lys
      100            105            110

Asn Leu Glu Lys Gly Leu Gly Val Asp Ser Val Asp Lys Asp Ala Met
      115            120            125

Asn Ala Ala Ile Gln Gln Ala Ile Lys Ala Gln Pro Ser Met Ser Pro
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Lys Lys Ala Pro Pro Ala Pro Ala Lys Glu Ala Arg Asn Val Val Ala
      145            150            155            160

Val Gly Thr Gly Gly Arg Gly Thr His Asp Arg Asp Pro Ser Glu Lys

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<213> Homo sapiens

<400> 95

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<210> 96

<211> 137

<212> PRT

<213> Homo sapiens

<400> 96

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Asn Tyr Leu Pro Gln Pro Ile Tyr Arg His Ile Ala Ser Phe Leu Ser
 20            25            30

Val Phe Lys Leu Val Leu Ile Gly Leu Ile Ile Val Gly Lys Asp Pro
 35            40            45

Phe Ala Phe Phe Gly Met Gln Ala Pro Ser Ile Trp Gln Trp Gly Gln
 50            55            60

Glu Asn Lys Val Tyr Ala Cys Met Met Val Phe Phe Leu Ser Asn Met
 65            70            75            80

Ile Glu Asn Gln Cys Met Ser Thr Gly Ala Phe Glu Ile Thr Leu Asn
 85            90            95

Asp Val Pro Val Trp Ser Lys Leu Glu Ser Gly His Leu Pro Ser Met
100            105            110

Gln Gln Leu Val Gln Ile Leu Asp Asn Glu Met Lys Leu Asn Val His
115            120            125

Met Asp Ser Ile Pro His His Arg Ser
130            135
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<210> 97
 <211> 1299
 <212> DNA
 <213> Homo sapiens

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<210> 98
 <211> 132
 <212> PRT
 <213> Homo sapiens

<400> 98
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 Ser Arg Thr Gly His Leu Met Lys Leu Leu Ser Gly Gln Gln Glu Val
 20 25 30
 Lys Ala Ser Lys Ile Glu Trp Asp Thr Asp Gln Trp Lys Thr Glu Asn
 35 40 45
 Tyr Ile Asn Glu Ser Thr Glu Ala Gln Ser Glu Gln Lys Glu Lys Ser
 50 55 60
 Leu Glu Phe Thr Lys Glu Leu Pro Gly Tyr Gly Tyr Thr Lys Lys Leu
 65 70 75 80
 Ile Leu Ala Leu Ile Val Thr Gly Ile Leu Thr Ile Leu Ile Ile Leu
 85 90 95
 Leu Cys Leu Ile Glu Ile Cys Cys His Arg Arg Ser Leu Gln Glu Asp
 100 105 110
 Glu Glu Gly Phe Ser Arg Asp Ser Glu Ala Pro Thr Glu Glu Glu Ser
 115 120 125

Glu Ala Leu Pro
130

<210> 99
<211> 915
<212> DNA
<213> Homo sapiens

<400> 99
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<210> 100
<211> 76
<212> PRT
<213> Homo sapiens

<400> 100
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Gly Leu Val Gly Phe Leu Leu Leu Leu Trp Val Ile Leu Cys Trp
20 25 30
Ala Cys His Ser Arg Ser Ala Asp Val Asp Ser Leu Ser Glu Ser Ser
35 40 45
Pro Asn Ser Ser Pro Gly Pro Cys Pro Glu Lys Ala Pro Pro Pro Gln
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Lys Pro Ser His Glu Gly Ser Tyr Leu Leu Gln Pro
65 70 75

<210> 101
<211> 2915
<212> DNA
<213> Homo sapiens

<400> 101
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<210> 102

<211> 104

<212> PRT

<213> Homo sapiens

<400> 102

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Asp Lys Ser Gln Gln Val Ile Val Gln Gly Val His Glu Leu Tyr Asp
35 40 45

Leu Glu Glu Thr Pro Val Ser Trp Lys Asp Asp Thr Glu Arg Thr Asn
 50 55 60
 Arg Leu Val Leu Ile Gly Arg Asn Leu Asp Lys Asp Ile Leu Lys Gln
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 Phe Lys Glu Asp Gln Val Cys Thr
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<210> 103
 <211> 1530
 <212> DNA
 <213> Homo sapiens

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 ctgtacacaa catcgctaata gaggacacca tataagacat caccaatgag gatgctgtat 480
 atgacatcgc taatggcacc cacaaggcat gctaacgagg acgctgtaga cgacattgct 540
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 gacgttgtat atgacatcgc taatgaggat gctttacaag acatagctaa tgaggttgct 660
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 gaggacactg tacaagacat ctgtaaaaaa gaagatgctg ccaatgagcc attgacactg 900
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 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1530

<210> 104
 <211> 215
 <212> PRT
 <213> Homo sapiens

<400> 104
 Met Leu Tyr Thr Thr Ser Leu Met Arg Thr Val Tyr Lys Pro Ser Leu
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 Met Arg Thr Leu Tyr Met Ala Ser Leu Thr Arg Thr Leu Tyr Lys Ala
 20 25 30
 Leu Leu Thr Arg Thr Leu Tyr Thr Thr Ser Leu Met Arg Thr Pro Tyr

35 40 45
 Lys Thr Ser Pro Met Arg Met Leu Tyr Met Thr Ser Leu Met Ala Pro
 50 55 60
 Thr Arg His Ala Asn Glu Asp Ala Val Asp Asp Ile Ala Tyr Lys Asp
 65 70 75 80
 Thr Val Gln Asp Ile Ala Asn Glu Asp Ala Val Tyr Asp Ile Ala Asn
 85 90 95
 Glu Asp Val Val Tyr Asp Ile Ala Asn Glu Asp Ala Leu Gln Asp Ile
 100 105 110
 Ala Asn Glu Val Ala Val Tyr Asp Ile Ala Asn Glu Asp Ile Val Tyr
 115 120 125
 Asp Ile Ala Asn Glu Asp Ala Leu Tyr Asp Ile Thr Asn Glu Asp Ala
 130 135 140
 Val Tyr Asn Ile Ala Asn Glu Asp Ala Val Tyr Gly Ile Ala Asn Glu
 145 150 155 160
 Asp Ala Val Tyr Glu Phe Ala Asn Lys Asp Ala Val Tyr Asp Ile Ala
 165 170 175
 Asn Glu Asp Thr Val Gln Asp Ile Cys Lys Lys Glu Asp Ala Ala Asn
 180 185 190
 Glu Pro Leu Thr Leu Glu Asn Asp Thr Tyr Pro Glu Ile Thr His Phe
 195 200 205
 Leu Arg Lys Lys Arg His Leu
 210 215

<210> 105
 <211> 2423
 <212> DNA
 <213> Homo sapiens

<400> 105
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 tataagaatg tgagttacat aagagaggag tcctgtcagt tcgttctctg ctgtgtcccc 120
 aagaccatga atcatggctg gcatgtagta ggcatttaat aatatatggt caacaagtat 180
 ttggcagctt tggaggggcag aaaaggaggt ggggaagatt tttaaataac attttttaaa 240
 aagtcacatt gtctacaat actgattttt cttgcatatt taggaaattg agggtttttt 300
 tctaaaacat gcgacatat gggaaatagg atgcaacatt tgcactaatg tttcagacac 360
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 tctggggagga catagtattc attcctccct cagcagaagc ggtgaggcaa gaagctctgg 480
 ggagcaccca gcgttggaact tttagcatag tgtgtcaggt cttcatagtt tgggcccagg 540
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 cagagcccga gaaggaagga acaatgatcc tccagctacc tcacggggct ggcacaggtg 720
 accactgccc tggcatcacc cagctgtgtc cggcagcctg aaccccatct gtggggatgc 780
 gaggagggaa atacaaaagt ccttaggtga acactgagaa ggcagatgca gcagaaacct 840
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 gtgtacttac actctaaggt cacttggttg cactatggcc tcatctgtgg ctctgaaaat 960
 gaagatttgg aaggagatca tcacagctaa tgtttaacaa gccctcctg tgtgccaaat 1020
 cattcaccct tcaccacaac cgaatgagct aaggattctc attatatata gtttatggag 1080

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agggaagtgc agacataaag aggtgaatta tcttaccag atcacacagc tgataagtgg 1140
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gtgtttattg agcacctgcc gcggacaagg ccttgtgtga ttaaataagg ttataattag 1260
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tgtagtccca gctactcagg aggtgagac aggagaattg cttggattcg ggaggtggg 2340
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tcaaaaaaaa aaaaaaaaaa aaa 2423

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<210> 106
 <211> 66
 <212> PRT
 <213> Homo sapiens

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<400> 106
Met Val Lys Leu Ser Ile Val Leu Thr Pro Gln Phe Leu Ser His Asp
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Gln Gly Gln Leu Thr Lys Glu Leu Gln Gln His Val Lys Ser Val Thr
      20             25             30

Cys Pro Cys Glu Tyr Leu Arg Lys Val Ser Glu Cys Arg Gln Met Gly
      35             40             45

Pro Gly Ala Leu Glu Gln Phe Pro Gly Leu Ser Cys His Thr Ser His
      50             55             60

Ser Arg
  65

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<210> 107
 <211> 1418
 <212> DNA
 <213> Homo sapiens

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<400> 107
cttttgggca gtttgatcac tgatcgagta aggaatgacc tttagattgt gcgacttttg 60
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catcttccca gacggagttc aaaggccact tctcaagcag cttttggcac cttcagcctc 180
agagtggaaat cttttaaaga caggaccctt atgtccagga aaggggaaaa ggaactttgc 240
caatgatagt gaccacagca aaagcaaata ataataatat taataataat aaagagaaat 300
aaaataataa aataaaaaac aatagcacag cccttgttga ggtagcagg gagggggggc 360
tgcccgaggt tgggtccttg cctggatttt gacacagcaa ctctctgtag tgagcacttt 420
gtatgaatcg tggacttcct gttctcaagg cgcaggattt tattctgtat ctgtctagag 480

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cacacaccaa aatccaacct tctaataaac atgatggcgc agtcccactc cctgcctcgc 540
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 gccctccttg ccttgatttt gctccccctg gtccagctgg ttccaggcct gtgaatgtca 660
 gttcgtcggg cactgactcc gtctgtctctt ggccctgggt tcatttgaca aatatttgcc 720
 cagggcctcc cagggccagc cccatgccac ctgggccccg gcattctctt gaggttctgc 780
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 agagcaggac cctgtctcaa aaaaaaaaa aaaaaaaa 1418

<210> 108

<211> 123

<212> PRT

<213> Homo sapiens

<400> 108

Met Asn Arg Gly Leu Pro Val Leu Lys Ala Gln Val Phe Ile Leu Tyr
 1 5 10 15

Leu Ser Arg Ala His Thr Lys Ile Gln Pro Ser Asn Lys His Asp Gly
 20 25 30

Ala Val Pro Leu Pro Ala Ser Pro Val Pro Leu Ser Pro Pro Gly Leu
 35 40 45

Gly Ser Ser Gly Val Gly Val Gly Arg Gly Pro Cys Pro Pro Cys Leu
 50 55 60

Asp Phe Ala Pro Leu Gly Pro Ala Gly Ser Arg Pro Val Asn Val Ser
 65 70 75 80

Ser Ser Gly Thr Asp Ser Val Cys Ser Trp Pro Trp Val His Leu Thr
 85 90 95

Asn Ile Cys Pro Gly Pro Pro Arg Pro Ser Pro Met Pro Pro Gly Pro
 100 105 110

Arg His Leu Phe Glu Val Leu Pro Met Cys Ser
 115 120

<210> 109

<211> 1199

<212> DNA

<213> Homo sapiens

<400> 109

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 atgacacaag ttcagcccag agccggggct atggggccca gcgggcacct ggtggcctga 180
 gttatcctgc agcctctccc acgcccctat cagccttctt ggctgacctg gtgtccaaca 240
 tggccatggc ctatgggagc agcctggccg cgcagggcaa ggagctggtg gataagaaca 300
 tcgaccgctt catccccatc accaagctca agtattactt tgctgtggac accatgtatg 360

tgggcagaaa gctgggcctg ctgttcttcc cctacctaca ccaggactgg gaagtgcagt 420
 accaacagga caccocggtg gccccccgct ttgacgtcaa tgccccggac ctctacattc 480
 cagcaatggc tttcatcacc tacgttttgg tggctggtct tgcgctgggg acccaggata 540
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 aggtgctggc catcctgctc agcctctatc tggctactgt caacaccgac ctcaccacca 660
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 cagccccgcc cccaacccaa ggtgctgaga gatctccagc tgcacaggcc accgccccag 1140
 ggcgtggcgg ctgttacaga aacaataaac cctgatgggc atggaaaaaa aaaaaaaaaa 1199

<210> 110

<211> 283

<212> PRT

<213> Homo sapiens

<400> 110

Met Ala Asp Pro His Gln Leu Phe Asp Asp Thr Ser Ser Ala Gln Ser
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Arg Gly Tyr Gly Ala Gln Arg Ala Pro Gly Gly Leu Ser Tyr Pro Ala
 20 25 30

Ala Ser Pro Thr Pro His Ala Ala Phe Leu Ala Asp Pro Val Ser Asn
 35 40 45

Met Ala Met Ala Tyr Gly Ser Ser Leu Ala Ala Gln Gly Lys Glu Leu
 50 55 60

Val Asp Lys Asn Ile Asp Arg Phe Ile Pro Ile Thr Lys Leu Lys Tyr
 65 70 75 80

Tyr Phe Ala Val Asp Thr Met Tyr Val Gly Arg Lys Leu Gly Leu Leu
 85 90 95

Phe Phe Pro Tyr Leu His Gln Asp Trp Glu Val Gln Tyr Gln Gln Asp
 100 105 110

Thr Pro Val Ala Pro Arg Phe Asp Val Asn Ala Pro Asp Leu Tyr Ile
 115 120 125

Pro Ala Met Ala Phe Ile Thr Tyr Val Leu Val Ala Gly Leu Ala Leu
 130 135 140

Gly Thr Gln Asp Arg Phe Ser Pro Asp Leu Leu Gly Leu Gln Ala Ser
 145 150 155 160

Ser Ala Leu Ala Trp Leu Thr Leu Glu Val Leu Ala Ile Leu Leu Ser
 165 170 175

Leu Tyr Leu Val Thr Val Asn Thr Asp Leu Thr Thr Ile Asp Leu Val
 180 185 190

Ala Phe Leu Gly Tyr Lys Tyr Val Gly Met Ile Gly Gly Val Leu Met
 195 200 205

Gly Leu Leu Phe Gly Lys Ile Gly Tyr Tyr Leu Val Leu Gly Trp Cys
 210 215 220

Cys Val Ala Ile Phe Val Phe Met Ile Arg Thr Leu Arg Leu Lys Ile
 225 230 235 240

Leu Ala Asp Ala Ala Ala Glu Gly Val Pro Val Arg Gly Ala Arg Asn
 245 250 255

Gln Leu Arg Met Tyr Leu Thr Met Ala Val Ala Ala Ala Gln Pro Met
 260 265 270

Leu Met Tyr Trp Leu Thr Phe His Leu Val Arg
 275 280

<210> 111
 <211> 2024
 <212> DNA
 <213> Homo sapiens

<400> 111
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 tgaataaag aaaaaatatt tctgaaattc gggaacttga gaacatagaa gaacaccagt 540
 ctgtagatat tgcaactttg gaagatgaag ctccaggaaa taaaagcaaa atgaaaatgg 600
 ttgaggaaca tatggagcaa caaaaagaaa atatggagca tcttaaaagt ctgaaaatag 660
 aagcagaaaa taagtatgat gcaattaaat tcaaaattaa tcaactatcg gagctagcag 720
 acccacttaa ggatgaatta aaccttgctg attctgaagt ggataaccaa aaacgaggga 780
 aacgacatta tgaagaaaaa caaaaagaac acttggtgac cttaataaaa aagaacagag 840
 aactggatat gaaagagaaa gaactagagg agaaaatgtc acaagcaaga caaatctgcc 900
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 gtggaaaaat gaattttgac cacaagaatg aaactctaag tatatcagtt cagcctggag 1260
 aaggaaataa agctgctttc aatgacatga gagccttgtc tggagggtgaa cgttctttct 1320
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 aaccacaatc aaacatataa ataagcctgg aaaaccaact acaaccagca atttaagatt 1800
 actattactt taagaaaatc aatttcatag tatttggtttt aaatcttttt aagttttttt 1860
 aatcagatct atttttatag gttctttttc agaagtaaaa ttttgtacat atatacatgt 1920
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 cacctgatta aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 2024

<210> 112
 <211> 487
 <212> PRT

<213> Homo sapiens

<400> 112

Met Arg Gly Ile Glu Thr Val Leu Leu Ile Lys Asn Asn Ser Val Ala
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Arg Ala Val Met Gln Ser Gln Lys Pro Pro Lys Asn Cys Arg Glu Ala
20 25 30

Phe Thr Ala Asp Gly Asp Gln Val Phe Ala Gly Arg Tyr Tyr Ser Ser
35 40 45

Glu Asn Thr Arg Pro Lys Phe Leu Ser Arg Asp Val Asp Ser Glu Ile
50 55 60

Ser Asp Leu Glu Asn Glu Val Glu Asn Lys Thr Ala Gln Ile Leu Asn
65 70 75 80

Leu Gln Gln His Leu Ser Ala Leu Glu Lys Asp Ile Lys His Asn Glu
85 90 95

Glu Leu Leu Lys Arg Cys Gln Leu His Tyr Lys Glu Leu Lys Met Lys
100 105 110

Ile Arg Lys Asn Ile Ser Glu Ile Arg Glu Leu Glu Asn Ile Glu Glu
115 120 125

His Gln Ser Val Asp Ile Ala Thr Leu Glu Asp Glu Ala Gln Glu Asn
130 135 140

Lys Ser Lys Met Lys Met Val Glu Glu His Met Glu Gln Gln Lys Glu
145 150 155 160

Asn Met Glu His Leu Lys Ser Leu Lys Ile Glu Ala Glu Asn Lys Tyr
165 170 175

Asp Ala Ile Lys Phe Lys Ile Asn Gln Leu Ser Glu Leu Ala Asp Pro
180 185 190

Leu Lys Asp Glu Leu Asn Leu Ala Asp Ser Glu Val Asp Asn Gln Lys
195 200 205

Arg Gly Lys Arg His Tyr Glu Glu Lys Gln Lys Glu His Leu Asp Thr
210 215 220

Leu Asn Lys Lys Lys Arg Glu Leu Asp Met Lys Glu Lys Glu Leu Glu
225 230 235 240

Glu Lys Met Ser Gln Ala Arg Gln Ile Cys Pro Glu Arg Ile Glu Val
245 250 255

Glu Lys Ser Ala Ser Ile Leu Asp Lys Glu Ile Asn Arg Leu Arg Gln
260 265 270

Lys Ile Gln Ala Glu His Ala Ser His Gly Asp Arg Glu Glu Ile Met
275 280 285

Arg Gln Tyr Gln Glu Ala Arg Glu Thr Tyr Leu Asp Leu Asp Ser Lys
290 295 300

Val Arg Thr Leu Lys Lys Phe Ile Lys Leu Leu Gly Glu Ile Met Glu
 305 310 315 320
 His Arg Phe Lys Thr Tyr¹ Gln Gln Phe Arg Arg Cys Leu Thr Leu Arg
 325 330 335
 Cys Lys Leu Tyr Phe Asp Asn Leu Leu Ser Gln Arg Ala Tyr Cys Gly
 340 345 350
 Lys Met Asn Phe Asp His Lys Asn Glu Thr Leu Ser Ile Ser Val Gln
 355 360 365
 Pro Gly Glu Gly Asn Lys Ala Ala Phe Asn Asp Met Arg Ala Leu Ser
 370 375 380
 Gly Gly Glu Arg Ser Phe Ser Thr Val Cys Phe Ile Leu Ser Leu Trp
 385 390 395 400
 Ser Ile Ala Glu Ser Pro Phe Arg Cys Leu Asp Glu Phe Asp Val Tyr
 405 410 415
 Met Asp Met Val Asn Arg Arg Ile Ala Met Asp Leu Ile Leu Lys Met
 420 425 430
 Ala Asp Ser Gln Arg Phe Arg Gln Phe Ile Leu Leu Thr Pro Gln Ser
 435 440 445
 Met Ser Ser Leu Pro Ser Ser Lys Leu Ile Arg Ile Leu Arg Met Ser
 450 455 460
 Asp Pro Glu Arg Gly Gln Thr Thr Leu Pro Phe Arg Pro Val Thr Gln
 465 470 475 480
 Glu Glu Asp Asp Asp Gln Arg
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<210> 113
 <211> 1424
 <212> DNA
 <213> Homo sapiens'

<400> 113
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 atggcagtca tcttgggcat ctttggcacc gtgcagtacc gctcccggtg cctcatcctg 240
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 gaggttggac agctgtccca ggaccgggac ttcacatga ccttcaacac atccctgcac 360
 cgctcctggt ggatggagaa tgggccaggc tgccctggtga cacctgttct gaactcccgc 420
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 tgccgcgagc tggggccaag gcgcaggcgt gtcccccctgg tggcccgcgc gctcactgca 780
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 gggaggggca ccacggcctt tttgtttttt gtttgtttgt ttttaatctc agccttggcg 960
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 gagctagact gggattaaaa ttctcatttt gcagtacatt aaaactgagg ccagagatg 1320
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 ctttctgcag tttctgactg taaaaaaaaa aaaaaaaaaa aaaa 1424

<210> 114
 <211> 207
 <212> PRT
 <213> Homo sapiens

<400> 114
 Met Gly Lys Cys Ser Gly Arg Cys Thr Leu Val Ala Phe Cys Cys Leu
 1 5 10 15
 Gln Leu Val Ala Ala Leu Glu Arg Gln Ile Phe Asp Phe Leu Gly Tyr
 20 25 30
 Gln Trp Ala Pro Ile Leu Ala Asn Phe Leu His Ile Met Ala Val Ile
 35 40 45
 Leu Gly Ile Phe Gly Thr Val Gln Tyr Arg Ser Arg Tyr Leu Ile Leu
 50 55 60
 Tyr Ala Ala Trp Leu Val Leu Trp Val Gly Trp Asn Ala Phe Ile Ile
 65 70 75 80
 Cys Phe Tyr Leu Glu Val Gly Gln Leu Ser Gln Asp Arg Asp Phe Ile
 85 90 95
 Met Thr Phe Asn Thr Ser Leu His Arg Ser Trp Trp Met Glu Asn Gly
 100 105 110
 Pro Gly Cys Leu Val Thr Pro Val Leu Asn Ser Arg Leu Ala Leu Glu
 115 120 125
 Asp His His Val Ile Ser Val Thr Gly Cys Leu Leu Asp Tyr Pro Tyr
 130 135 140
 Ile Glu Ala Leu Ser Ser Ala Leu Gln Ile Phe Leu Ala Leu Phe Gly
 145 150 155 160
 Phe Val Phe Ala Cys Tyr Val Ser Lys Val Phe Leu Glu Glu Glu Asp
 165 170 175
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 180 185 190
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 195 200 205

<210> 115
 <211> 843
 <212> DNA
 <213> Homo sapiens

<400> 115

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<210> 116
 <211> 84
 <212> PRT
 <213> Homo sapiens

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<400> 116
Met Gly Thr Arg Arg Pro Leu Gly Arg Leu Leu Gln Ala Gly Thr Arg
  1             5             10             15

Pro Ala Arg Pro Thr Pro His Gly Arg Arg Arg Leu His Val Ser Ala
      20             25             30

Pro Leu Gln Ala Gln Glu Ala Arg Gly Val Thr Trp Arg Pro Gly Pro
      35             40             45

Ala Ser Pro Ala Pro Leu Arg Leu Thr Thr Tyr Pro Pro Pro Phe Phe
      50             55             60

Leu Ser Lys Tyr Pro Asp Gln Ser Ile Ser Pro Arg Arg Thr Arg Thr
      65             70             75             80

Ala Gly Ser Asp

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<210> 117
 <211> 2232
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> (225)

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<400> 117
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<210> 118
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 <212> PRT
 <213> Homo sapiens

<220>
 <221> UNSURE
 <222> (8)

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 20 25 30
 Gly Gln Val Thr Val Trp Glu Ala Glu Ala Pro Leu Gln Gly Gly Phe
 35 40 45
 Gly Ala Pro Gln Ser Thr Pro Gly Ala Lys Gly Ala Trp Ala Trp Glu
 50 55 60
 Ala Arg Thr Gly Lys Val Leu Gly Leu Ser Pro Ser Pro Arg Thr Pro
 65 70 75 80
 Pro Gln Ser Leu Gly Leu Ser Asn Ser His Asp Arg Ala Leu Val Lys
 85 90 95
 Arg Lys Leu Lys Glu Met Ala Ala Ala Glu Lys Glu Arg Lys Ala
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Gln Glu Lys Ala Ala Arg Gln Arg Glu Lys Leu Arg Arg Arg Glu Gln
 115 120 125

Glu Ala Lys Lys Ser
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<210> 119
 <211> 4086
 <212> DNA
 <213> Homo sapiens

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<210> 120
<211> 102
<212> PRT
<213> Homo sapiens

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<400> 120
Met Ser Thr Gly Asn Thr Val Cys Ser Arg Tyr His Phe Tyr Val Arg
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Val Asn Gln Ala Val Ile Trp Val Asp Val Leu Ile Tyr Trp Ser Val
          20            25            30
His Ile Leu Asp Ile Val Ile Pro His Trp Leu Val Asn Ser Val Ser
      35             40             45
Ile Tyr Trp Ile Ile Glu Trp Arg Leu Trp Cys Trp Trp Trp Glu Arg
      50            55            60
Trp Trp Tyr Trp Arg Ile His Pro Ala Val Val Ala Ala Val Phe Arg
      65            70            75            80
Ile Lys Asp Asp Arg Ser Ser Ala Pro Cys Asp Ile Gly Ile Met Cys
          85            90            95
Ala Gln Pro Ala Asn Pro
      100

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<210> 121
<211> 1293
<212> DNA
<213> Homo sapiens

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<400> 121
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<210> 122

<211> 54

<212> PRT

<213> Homo sapiens

<400> 122

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Leu Arg Leu Met Pro Gly Leu Leu Pro Ile Trp Val Ala Ser Ala Asn
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Asp Val Gln His Ile Gln Gly Gln Ala Gln Gly Arg Thr Ala Pro Lys
 35 40 45

Ala Lys Ile Leu Pro Ser
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<210> 123

<211> 2509

<212> DNA

<213> Homo sapiens

<400> 123

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 tattgagaac tacttaacaa aagatttatc tgtaagcttg aactcaggag tacagtttta 780
 gctatctaga ctctaacagc ttttgcttta aaattattaa agtgtttctt aatgaaaaag 840

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<210> 124
 <211> 89
 <212> PRT
 <213> Homo sapiens

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 Glu Arg Thr Val Phe Ser Trp Phe Pro Leu Trp Gly Trp His Tyr Thr
 35 40 45
 Gln Asp Thr Ser Ser Cys Pro Ser Thr Ser Trp Arg Tyr Cys Thr Thr
 50 55 60
 Leu Lys Ser Tyr Asn Asp Gln Asp Ala Thr Arg Ile Arg Gly Ser Leu
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 Gly Lys Thr His Pro Thr Lys Leu Glu
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<210> 125
 <211> 2672
 <212> DNA
 <213> Homo sapiens

<400> 125

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<211> 750

<212> PRT

<213> Homo sapiens

<400> 126

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Ala Asn Phe Asn Thr Pro Gln Ala Leu Arg Phe Glu Glu Leu Leu Ala
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Asn Leu Leu Asn Glu Gln His Gln Ile Ala Lys Glu Leu Phe Glu Gln
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 Leu Lys Met Lys Lys Pro Ser Ala Lys Gln Gln Lys Glu Val Glu Lys
 65 70 75 80
 Val Lys Pro Gln Cys Lys Glu Val His Gln Thr Leu Ile Leu Asp Pro
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 Ala Gln Arg Lys Arg Leu Gln Gln Gln Met Gln Gln His Val Gln Leu
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 Leu Thr Gln Ile His Leu Leu Ala Thr Cys Asn Pro Asn Leu Asn Pro
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 Glu Ala Ser Ser Thr Arg Ile Cys Leu Lys Glu Leu Gly Thr Phe Ala
 130 135 140
 Gln Ser Ser Ile Ala Leu His His Gln Tyr Asn Pro Lys Phe Gln Thr
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 Leu Phe Gln Pro Cys Asn Leu Met Gly Ala Met Gln Leu Ile Glu Asp
 165 170 175
 Phe Ser Thr His Val Ser Ile Asp Cys Ser Pro His Lys Thr Val Lys
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 Lys Thr Ala Asn Glu Phe Pro Cys Leu Pro Lys Gln Val Ala Trp Ile
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 Leu Ala Thr Ser Lys Val Phe Met Tyr Pro Glu Leu Leu Pro Val Cys
 210 215 220
 Ser Leu Lys Ala Lys Asn Pro Gln Asp Lys Ile Leu Phe Thr Lys Ala
 225 230 235 240
 Glu Asp Asn Leu Leu Ala Leu Gly Leu Lys His Phe Glu Gly Thr Glu
 245 250 255
 Phe Leu Asn Pro Leu Ile Ser Lys Tyr Leu Leu Thr Cys Lys Thr Ala
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 Gly Lys Cys Cys Glu Glu Ile Gln Pro His Gln Trp Lys Pro Pro Ile
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 Glu Arg Glu Glu His Arg Leu Pro Phe Trp Leu Lys Ala Ser Leu Pro
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 Ser Ile Gln Glu Glu Leu Arg His Met Ala Asp Gly Ala Arg Glu Val
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 Gly Asn Met Thr Gly Thr Thr Glu Ile Asn Ser Asp Gln Gly Leu Glu
 355 360 365

Lys Asp Asn Ser Glu Leu Gly Ser Glu Thr Arg Tyr Pro Leu Leu Leu
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 Pro Lys Gly Val Val Leu Lys Leu Lys Pro Val Ala Asp Arg Phe Pro
 385 390 395 400
 Lys Lys Ala Trp Arg Gln Lys Arg Ser Ser Val Leu Lys Pro Leu Leu
 405 410 415
 Ile Gln Pro Ser Pro Ser Leu Gln Pro Ser Phe Asn Pro Gly Lys Thr
 420 425 430
 Pro Ala Gln Ser Thr His Ser Glu Ala Pro Pro Ser Lys Met Val Leu
 435 440 445
 Arg Ile Pro His Pro Ile Gln Pro Ala Thr Val Leu Gln Thr Val Pro
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 Gly Val Pro Pro Leu Gly Val Ser Gly Gly Glu Ser Phe Glu Ser Pro
 465 470 475 480
 Ala Ala Leu Pro Ala Met Pro Pro Glu Ala Arg Thr Ser Phe Pro Leu
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 Ser Glu Ser Gln Thr Leu Leu Ser Ser Ala Pro Val Pro Lys Val Met
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 Met Pro Ser Pro Ala Ser Ser Met Phe Arg Lys Pro Tyr Val Arg Arg
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 595 600 605
 Val Ala Ser Ser Val Ser Pro Leu Ile Val Ser Gly Asn Ser Val Asn
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 625 630 635 640
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 Pro Lys Leu Glu Pro Gln Glu Leu Ser Pro Leu Ser Ala Thr Val Phe
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 Pro Lys Val Glu His Ser Pro Gly Pro Pro Pro Val Asp Lys Gln Cys
 675 680 685

Gln Glu Gly Leu Ser Glu Asn Ser Ala Tyr Arg Trp Thr Val Val Lys
690 695 700

Thr Glu Glu Gly Arg Gln Ala Leu Glu Pro Leu Pro Gln Gly Ile Gln
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Glu Ser Leu Asn Asn Ser Ser Pro Gly Asp Leu Glu Glu Val Val Lys
725 730 735

Met Glu Pro Glu Asp Ala Thr Glu Glu Ile Ser Gly Phe Leu
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<211> 2673
<212> DNA
<213> Homo sapiens

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<210> 128

<211> 633

<212> PRT

<213> Homo sapiens

<400> 128

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Leu Ile Glu Ala Gly Leu Pro Gln Lys Val Ala Glu Arg Leu Asp Glu
35 40 45

Ile Phe Gln Thr Gly Leu Val Ala Tyr Val Asp Leu Asp Glu Arg Ala
50 55 60

Ile Asp Ala Leu Arg Glu Phe Asn Glu Glu Gly Ala Leu Ser Val Leu
65 70 75 80

Gln Gln Phe Lys Glu Ser Asp Leu Ser His Val Gln Asn Lys Ser Ala
85 90 95

Phe Leu Cys Gly Val Met Lys Thr Tyr Arg Gln Arg Glu Lys Gln Gly
100 105 110

Ser Lys Val Gln Glu Ser Thr Lys Gly Pro Asp Glu Ala Lys Ile Lys
115 120 125

Ala Leu Leu Glu Arg Thr Gly Tyr Thr Leu Asp Val Thr Thr Gly Gln
130 135 140

Arg Lys Tyr Gly Gly Pro Pro Pro Asp Ser Val Tyr Ser Gly Val Gln
145 150 155 160

Pro Gly Ile Gly Thr Glu Val Phe Val Gly Lys Ile Pro Arg Asp Leu
165 170 175

Tyr Glu Asp Glu Leu Val Pro Leu Phe Glu Lys Ala Gly Pro Ile Trp
180 185 190

Asp Leu Arg Leu Met Met Asp Pro Leu Ser Gly Gln Asn Arg Gly Tyr
195 200 205

Ala Phe Ile Thr Phe Cys Gly Lys Glu Ala Ala Gln Glu Ala Val Lys
210 215 220

Leu Cys Asp Ser Tyr Glu Ile Arg Pro Gly Lys His Leu Gly Val Cys
225 230 235 240

Ile Ser Val Ala Asn Asn Arg Leu Phe Val Gly Ser Ile Pro Lys Asn
245 250 255

Lys Thr Lys Glu Asn Ile Leu Glu Glu Phe Ser Lys Val Thr Glu Gly
 260 265 270
 Leu Val Asp Val Ile Leu Tyr His Gln Pro Asp Asp Lys Lys Lys Asn
 275 280 285
 Arg Gly Phe Cys Phe Leu Glu Tyr Glu Asp His Lys Ser Ala Ala Gln
 290 295 300
 Ala Arg Arg Arg Leu Met Ser Gly Lys Val Lys Val Trp Gly Asn Val
 305 310 315 320
 Val Thr Val Glu Trp Ala Asp Pro Val Glu Glu Pro Asp Pro Glu Val
 325 330 335
 Met Ala Lys Val Lys Val Leu Phe Val Arg Asn Leu Ala Thr Thr Val
 340 345 350
 Thr Glu Glu Ile Leu Glu Lys Ser Phe Ser Glu Phe Gly Lys Leu Glu
 355 360 365
 Arg Val Lys Lys Leu Lys Asp Tyr Ala Phe Val His Phe Glu Asp Arg
 370 375 380
 Gly Ala Ala Val Lys Ala Met Asp Glu Met Asn Gly Lys Glu Ile Glu
 385 390 395 400
 Gly Glu Glu Ile Glu Ile Val Leu Ala Lys Pro Pro Asp Lys Lys Arg
 405 410 415
 Lys Glu Arg Gln Ala Ala Arg Gln Ala Ser Arg Ser Thr Ala Tyr Glu
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 450 455 460
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 Asp Tyr Arg Gly Gly Tyr Glu Asp Pro Tyr Tyr Gly Tyr Asp Asp Gly
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 515 520 525
 Tyr Ser Gln Arg Gly Ala Pro Leu Gly Pro Pro Arg Gly Ser Arg Gly
 530 535 540
 Gly Arg Gly Gly Pro Ala Gln Gln Gln Arg Gly Arg Gly Ser Arg Gly
 545 550 555 560
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 565 570 575

Gly Tyr Asn Gln Pro Asp Ser Lys Arg Arg Gln Thr Asn Asn Gln Gln
580 585 590

Asn Trp Gly Ser Gln Pro Ile Ala Gln Gln Pro Leu Gln Gln Gly Gly
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Asp Tyr Ser Gly Asn Tyr Gly Tyr Asn Asn Asp Asn Gln Glu Phe Tyr
610 615 620

Gln Asp Thr Tyr Gly Gln Gln Trp Lys
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<210> 129

<211> 938

<212> DNA

<213> Homo sapiens

<400> 129

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<210> 130

<211> 244

<212> PRT

<213> Homo sapiens

<400> 130

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Pro Glu Leu Tyr Ile Arg Glu Ser Val Lys Gly Ser Leu Asp Arg Lys
35 40 45

Lys Leu Glu Gln Leu Tyr Asn Arg Tyr Gln Asp Pro Gln Asp Glu Asn
50 55 60

Lys Ile Gly Ile Asp Gly Ile Gln Gln Phe Cys Asp Asp Leu Ala Leu
65 70 75 80

Asp Pro Ala Ser Ile Ser Val Leu Ile Ile Ala Trp Lys Phe Arg Ala
85 90 95

Ala Thr Gln Cys Glu Phe Ser Lys Gln Glu Phe Met Asp Gly Met Thr
100 105 110

Glu Leu Gly Cys Asp Ser Ile Glu Lys Leu Lys Ala Gln Ile Pro Lys
115 120 125

Met Glu Gln Glu Leu Lys Glu Pro Gly Arg Phe Lys Asp Phe Tyr Gln
130 135 140

Phe Thr Phe Asn Phe Ala Lys Asn Pro Gly Gln Lys Gly Leu Asp Leu
145 150 155 160

Glu Met Ala Ile Ala Tyr Trp Asn Leu Val Leu Asn Gly Arg Phe Lys
165 170 175

Phe Leu Asp Leu Trp Asn Lys Phe Leu Leu Glu His His Lys Arg Ser
180 185 190

Ile Pro Lys Asp Thr Trp Asn Leu Leu Leu Asp Phe Ser Thr Met Ile
195 200 205

Ala Asp Asp Met Ser Asn Tyr Asp Glu Glu Gly Ala Trp Pro Val Phe
210 215 220

Ile Asp Asp Phe Val Glu Phe Ala Arg Pro Gln Ile Ala Gly Thr Lys
225 230 235 240

Ser Thr Thr Val

<210> 131

<211> 5170

<212> DNA

<213> Homo sapiens

<400> 131

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| gatcatgcca | caccagggtc | tgtctcaaac | ggaggtacaa | agatcccagg | caactggcag | 1800 |
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| aacagtttac | cctgccctgg | gggctgcagc | tgcgaccaca | tcccagggtc | gggtttaaag | 1920 |
| atgaactgca | acaacaggaa | cgtgagcagc | ttggctgatt | tgaagcccaa | gctctctaac | 1980 |
| gtgcaggagc | ttttctacg | agataacaag | atccacagca | tccgaaaatc | gcactttgtg | 2040 |
| gattacaaga | acctcattct | gttggatctg | ggcaacaata | acatcgctac | tgtagagaac | 2100 |
| aacactttca | agaacctttt | ggacctcagg | tggctatata | tggatagcaa | ttacctggac | 2160 |
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| tctaaactca | gcctgcacaa | caattacttc | atgtacctcc | cgggtggcagg | ggtgctggac | 2400 |
| cagttaacct | ccatcatcca | gatagacctc | cacggaacc | cctgggagtg | ctcctgcaca | 2460 |
| attgtgcctt | tcaagcagtg | ggcagaacgc | ttgggttccg | aagtgtgat | gagcgacctc | 2520 |
| aagtgtgaga | cgccggtgaa | cttctttaga | aaggatttca | tgtctctctc | caatgacgag | 2580 |
| atctgccctc | agctgtacgc | taggatctcg | cccacgttaa | cttcgcacag | taaaaacagc | 2640 |
| actgggttgg | cggagaccgg | gacgcactcc | aactcctacc | tagacaccag | cagggtgtcc | 2700 |
| atctcgggtg | tgggtccggg | actgctgctg | gtgtttgtca | cctccgcctt | caccgtggtg | 2760 |
| ggcatgctcg | tgtttatcct | gaggaaccga | aagcgttcca | agagacgaga | tgccaaactcc | 2820 |
| tccgcgtccg | agattaattc | cctacagaca | gtctgtgact | cttctactg | gcacaatggg | 2880 |
| ccttacaacg | cagatggggc | ccacagagtg | tatgactgtg | gctctcactc | gctctcagac | 2940 |
| taagacccca | acccaatag | gggagggcag | aggggaaggc | atacatcctt | ccccaccgca | 3000 |
| ggcaccgccg | gggctggagg | ggcgtgtacc | caaatccccg | cgccatcagc | ctggatgggc | 3060 |
| ataagtagat | aaataactgt | gagctcgcac | aaccgaaagg | gcctgacccc | ttacttagct | 3120 |
| ccctccttga | aacaagagc | agactgtgga | gagctgggag | agcgagccca | gctcgctctt | 3180 |
| tgtgagagc | cccttttgac | agaaagccca | gcacgacctt | gctggaagaa | ctgacagtgc | 3240 |
| cctcgccctc | ggccccgggg | cctgtggggg | tggatgccgc | ggttctatac | atatatacat | 3300 |
| atatccacat | ctatatagag | agatagatat | ctatttttcc | cctgtggatt | agccccgtga | 3360 |
| tggctccctg | ttggctacgc | agggatgggc | agttgcacga | aggcatgaat | gtattgtaaa | 3420 |
| taagtaactt | tgactttctga | caaaaaacaa | aaagtgtctg | atggctcgca | tggaatccac | 3480 |
| gcgctccagg | gactctgccc | gcccccgca | ctggagacgg | catctcgctc | acagcaccca | 3540 |
| ccctccttacc | tgataagttc | catcgatatca | aactttctat | aaacaaaata | cagtataatc | 3600 |
| agaaagtgcc | atttcgccat | tatttgtgat | cggtaggcag | ttcagagcat | aagttaactg | 3660 |
| tgaaaaaat | gtaaaggttt | tatttaggac | atttgcattg | ctagtcatca | gtccatttta | 3720 |
| tgagttaaca | atgtattttg | ttgagggag | tttttagggg | ttgttttggg | ttcttttatt | 3780 |
| ttgatgggtg | tgttttattt | tattttattt | ttttcagggg | gtcttttttt | taatacatat | 3840 |
| ccaataatgc | cttccatctg | aatgtaaaat | aagtacccat | gatttctatt | atagtatcag | 3900 |
| tgtaatattt | taaaaaatga | ttttgaggca | gttaagcatg | accaattaat | gtcactctag | 3960 |
| tgcttaggct | gcgatccctat | ggtagcaatt | ctgtgctggg | ataaatctta | cttataaagt | 4020 |
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| tctgtgctct | ttgttgggtg | tgccacacac | gcagatatat | taaggatggt | aggagagatt | 4500 |
| tgatttaatt | gactctgcct | agataggtct | cattaaacag | agtggagatt | tcattgggtc | 4560 |
| gcactcctca | atgaaagaca | gacctaatga | ctggcatttg | agatgctgct | ggcattttga | 4620 |
| attcaacatc | tgctgaaaac | ggtaaaaacta | attagtcccc | acccaccttc | cccggcccag | 4680 |
| caactgcata | ttgaaatttg | ttaaagcact | catctttatg | gaaattaatc | attatcctaa | 4740 |
| agaagtgttt | ctctcccatc | atccggattt | ctgggtgtgg | cccagcaatt | aacaaaacaa | 4800 |
| gcttcaactg | ttcgaaattt | attgaaccaa | tgtaaactctg | gcctcaatca | tattcctctg | 4860 |
| ggattttctaa | acagcagtta | agctacaaaa | agcaaacaaa | accacacata | ttgatggagt | 4920 |
| ctgcattcca | ccacatatcc | acccttgaga | agtatgtcaa | aagactgcag | actatagatt | 4980 |

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 tctgccatct agaactcata ttctaaaggg aagtgatttc tcagaacagt gatgttctgg 5100
 aatatgtatt attttattta acactttttt aataaaatct ttattataaa ccatgaaaaa 5160
 aaaaaaaaaa 5170

<210> 132
 <211> 695
 <212> PRT
 <213> Homo sapiens

<400> 132
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 20 25 30
 Glu Ile Glu Gly Asp Leu His Val Asp Cys Glu Lys Lys Gly Phe Thr
 35 40 45
 Ser Leu Gln Arg Phe Thr Ala Pro Thr Ser Gln Phe Tyr His Leu Phe
 50 55 60
 Leu His Gly Asn Ser Leu Thr Arg Leu Phe Pro Asn Glu Phe Ala Asn
 65 70 75 80
 Phe Tyr Asn Ala Val Ser Leu His Met Glu Asn Asn Gly Leu His Glu
 85 90 95
 Ile Val Pro Gly Ala Phe Leu Gly Leu Gln Leu Val Lys Arg Leu His
 100 105 110
 Ile Asn Asn Asn Lys Ile Lys Ser Phe Arg Lys Gln Thr Phe Leu Gly
 115 120 125
 Leu Asp Asp Leu Glu Tyr Leu Gln Ala Asp Phe Asn Leu Leu Arg Asp
 130 135 140
 Ile Asp Pro Gly Ala Phe Gln Asp Leu Asn Lys Leu Glu Val Leu Ile
 145 150 155 160
 Leu Asn Asp Asn Leu Ile Ser Thr Leu Pro Ala Asn Val Phe Gln Tyr
 165 170 175
 Val Pro Ile Thr His Leu Asp Leu Arg Gly Asn Arg Leu Lys Arg Cys
 180 185 190
 Pro Met Arg Ser Leu Gly Ala Asn Pro Trp Tyr Cys Gly Asp Pro Ala
 195 200 205
 Arg Asp Asn Pro Trp Asp Cys Thr Cys Asp Leu Leu Ser Leu Lys Glu
 210 215 220
 Trp Leu Glu Asn Ile Pro Lys Asn Ala Leu Ile Gly Arg Val Val Cys
 225 230 235 240
 Glu Ala Pro Thr Arg Leu Gln Gly Lys Asp Leu Asn Glu Thr Thr Glu
 245 250 255
 Gln Asp Leu Cys Pro Leu Lys Asn Arg Val Asp Ser Ser Leu Pro Ala

| | | |
|---|-----|-----|
| 260 | 265 | 270 |
| Pro Pro Ala Gln Glu Glu Thr Phe Ala Pro Gly Pro Leu Pro Thr Pro | | |
| 275 | 280 | 285 |
| Phe Lys Thr Asn Gly Gln Glu Asp His Ala Thr Pro Gly Ser Ala Pro | | |
| 290 | 295 | 300 |
| Asn Gly Gly Thr Lys Ile Pro Gly Asn Trp Gln Ile Lys Ile Arg Pro | | |
| 305 | 310 | 315 |
| Thr Ala Ala Ile Ala Thr Gly Ser Ser Arg Asn Lys Pro Leu Ala Asn | | |
| 325 | 330 | 335 |
| Ser Leu Pro Cys Pro Gly Gly Cys Ser Cys Asp His Ile Pro Gly Ser | | |
| 340 | 345 | 350 |
| Gly Leu Lys Met Asn Cys Asn Asn Arg Asn Val Ser Ser Leu Ala Asp | | |
| 355 | 360 | 365 |
| Leu Lys Pro Lys Leu Ser Asn Val Gln Glu Leu Phe Leu Arg Asp Asn | | |
| 370 | 375 | 380 |
| Lys Ile His Ser Ile Arg Lys Ser His Phe Val Asp Tyr Lys Asn Leu | | |
| 385 | 390 | 395 |
| Ile Leu Leu Asp Leu Gly Asn Asn Asn Ile Ala Thr Val Glu Asn Asn | | |
| 405 | 410 | 415 |
| Thr Phe Lys Asn Leu Leu Asp Leu Arg Trp Leu Tyr Met Asp Ser Asn | | |
| 420 | 425 | 430 |
| Tyr Leu Asp Thr Leu Ser Arg Glu Lys Phe Ala Gly Leu Gln Asn Leu | | |
| 435 | 440 | 445 |
| Glu Tyr Leu Asn Val Glu Tyr Asn Ala Ile Gln Leu Ile Leu Pro Gly | | |
| 450 | 455 | 460 |
| Thr Phe Asn Ala Met Pro Lys Leu Arg Ile Leu Ile Leu Asn Asn Asn | | |
| 465 | 470 | 475 |
| Leu Leu Arg Ser Leu Pro Val Asp Val Phe Ala Gly Val Ser Leu Ser | | |
| 485 | 490 | 495 |
| Lys Leu Ser Leu His Asn Asn Tyr Phe Met Tyr Leu Pro Val Ala Gly | | |
| 500 | 505 | 510 |
| Val Leu Asp Gln Leu Thr Ser Ile Ile Gln Ile Asp Leu His Gly Asn | | |
| 515 | 520 | 525 |
| Pro Trp Glu Cys Ser Cys Thr Ile Val Pro Phe Lys Gln Trp Ala Glu | | |
| 530 | 535 | 540 |
| Arg Leu Gly Ser Glu Val Leu Met Ser Asp Leu Lys Cys Glu Thr Pro | | |
| 545 | 550 | 555 |
| Val Asn Phe Phe Arg Lys Asp Phe Met Leu Leu Ser Asn Asp Glu Ile | | |
| 565 | 570 | 575 |
| Cys Pro Gln Leu Tyr Ala Arg Ile Ser Pro Thr Leu Thr Ser His Ser | | |

580 585 590
 Lys Asn Ser Thr Gly Leu Ala Glu Thr Gly Thr His Ser Asn Ser Tyr
 595 600 605
 Leu Asp Thr Ser Arg Val Ser Ile Ser Val Leu Val Pro Gly Leu Leu
 610 615 620
 Leu Val Phe Val Thr Ser Ala Phe Thr Val Val Gly Met Leu Val Phe
 625 630 635 640
 Ile Leu Arg Asn Arg Lys Arg Ser Lys Arg Arg Asp Ala Asn Ser Ser
 645 650 655
 Ala Ser Glu Ile Asn Ser Leu Gln Thr Val Cys Asp Ser Ser Tyr Trp
 660 665 670
 His Asn Gly Pro Tyr Asn Ala Asp Gly Ala His Arg Val Tyr Asp Cys
 675 680 685
 Gly Ser His Ser Leu Ser Asp
 690 695

<210> 133
 <211> 1564
 <212> DNA
 <213> Homo sapiens

<400> 133
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 tatgtctgtg tggctagtgc tctactcct acctacatta aaatctgttt tttgttctct 180
 tgtaactagc ctttaccttc ctaacacaga ggatctgtca ctgtggctct ggcccaaacc 240
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 tgggccttgc cctggccgta gaagggattg acaagcccga agatttcata ggcgatggct 480
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 gtggacacct gctcagaagc agtgggtgag acatcacgct gcccgcccat ctaacctttt 600
 catgtcctgc acatcacetg atccatgggc taatctgaac tctgtcccaa ggaaccaga 660
 gcttgagtga gctgtggctc agaccagaa ggggtctgct tagaccacct ggtttatgtg 720
 acaggacttg cattctcctg gaacatgagg gaacgcgga ggaagcaaa gtggcagga 780
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 cgggactcac ctctggggcc atcagacagc cgtttccgcc ccgatccacg taccagctgc 960
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 ctgctgtgcg aacacggaaa tgctccagt aagtacagc tgcaaaatcc ccaggcaaag 1260
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 agctagagct tggttcaaat gatctccaag ggcccttata ccccaggaga ctttgatttg 1380
 aatttgaaac cccaaatcca aacctaaaga ccaggtgcat taagaatcag ttattgccgg 1440
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 aaaa

<210> 134
 <211> 109

<212> PRT

<213> Homo sapiens

<400> 134

Met Leu Trp Trp Leu Val Leu Leu Leu Leu Pro Thr Leu Lys Ser Val
1 5 10 15

Phe Cys Ser Leu Val Thr Ser Leu Tyr Leu Pro Asn Thr Glu Asp Leu
20 25 30

Ser Leu Trp Leu Trp Pro Lys Pro Asp Leu His Ser Gly Thr Arg Thr
35 40 45

Glu Val Ser Thr His Thr Val Pro Ser Lys Pro Gly Thr Ala Ser Pro
50 55 60

Cys Trp Pro Leu Ala Gly Ala Val Pro Ser Pro Thr Val Ser Arg Leu
65 70 75 80

Glu Ala Leu Thr Arg Ala Val Gln Val Ala Glu Pro Leu Gly Ser Cys
85 90 95

Gly Phe Gln Gly Gly Pro Cys Pro Gly Arg Arg Arg Asp
100 105

<210> 135

<211> 839

<212> DNA

<213> Homo sapiens

<400> 135

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acagggtttt ttcttagttt gttgcctaag agtacaccaa atgtgacatc ctttcaccaa 180
tatagattac ttcataccac attgtcaagg aaaggactag aagaattttt tgatgaccca 240
aaaaactggg ggcaagaaaa agtaaaatct ggagcagcat ggacctgtca gcaactaagg 300
aacaaaagta atgaagattt acacaaactt tggatatgtc tactgaaaga aagaacatg 360
cttctaacc tagagcagga ggccaagcgg cagagattgc caatgccaaag tccagagcgg 420
ttagataagg tagtagattc catggatgca ttagataaag ttgtccagga aagagaagat 480
gccctaaggc ttcttcagac tggtaagaa agagctagac ctggtgcttg gagaagagac 540
atctttggaa gaatcatctg gcacaagttc aagcagtggg ttataccttg gcacctaatt 600
aaaagataca ataggaaacg attctttgcc ttgccttatg tggaccattt tctcagactg 660
gaacgtgaga aacgagcccg catcaaagca cggaaggaaa atttagagag aaagaagca 720
aaaattcttt taaaaaagtt tccacatctt gctgaagccc aaaagtcaag tcttgtctaa 780
gatgtctgaa ctattaaatt taccattttg tttttcttga aaaaaaaaaa aaaaaaaaaa 839

<210> 136

<211> 250

<212> PRT

<213> Homo sapiens

<400> 136

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Leu Lys Ser Ser Arg Ser Leu Ile Thr Pro Gln Val Pro Ala Cys Thr
20 25 30

Gly Phe Phe Leu Ser Leu Leu Pro Lys Ser Thr Pro Asn Val Thr Ser

35

40

45

Phe His Gln Tyr Arg Leu Leu His Thr Thr Leu Ser Arg Lys Gly Leu
50 55 60

Glu Glu Phe Phe Asp Asp Pro Lys Asn Trp Gly Gln Glu Lys Val Lys
65 70 75 80

Ser Gly Ala Ala Trp Thr Cys Gln Gln Leu Arg Asn Lys Ser Asn Glu
85 90 95

Asp Leu His Lys Leu Trp Tyr Val Leu Leu Lys Glu Arg Asn Met Leu
100 105 110

Leu Thr Leu Glu Gln Glu Ala Lys Arg Gln Arg Leu Pro Met Pro Ser
115 120 125

Pro Glu Arg Leu Asp Lys Val Val Asp Ser Met Asp Ala Leu Asp Lys
130 135 140

Val Val Gln Glu Arg Glu Asp Ala Leu Arg Leu Leu Gln Thr Gly Gln
145 150 155 160

Glu Arg Ala Arg Pro Gly Ala Trp Arg Arg Asp Ile Phe Gly Arg Ile
165 170 175

Ile Trp His Lys Phe Lys Gln Trp Val Ile Pro Trp His Leu Asn Lys
180 185 190

Arg Tyr Asn Arg Lys Arg Phe Phe Ala Leu Pro Tyr Val Asp His Phe
195 200 205

Leu Arg Leu Glu Arg Glu Lys Arg Ala Arg Ile Lys Ala Arg Lys Glu
210 215 220

Asn Leu Glu Arg Lys Lys Ala Lys Ile Leu Leu Lys Lys Phe Pro His
225 230 235 240

Leu Ala Glu Ala Gln Lys Ser Ser Leu Val
245 250

<210> 137

<211> 1067

<212> DNA

<213> Homo sapiens

<400> 137

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ttccaccagg actggtgcaa ggcgcagagc cagccagatt tgagaagaag gcaaaaagat 180
gctggggagc agagctgtaa tgctgctgtt gctgctgccc tggacagctc agggcagagc 240
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cacactggcc tggagtgcac atccactagt gggacacatg gatctaagag aagagggaga 360
tgaagagact acaaatgatg tccccatat ccagtgtgga gatggctgtg accccaagg 420
actcagggac aacagtcagt tctgcttgca aaggatccac cagggtctga ttttttatga 480
gaagctgcta ggatcgata ttttcacagg ggagccttct ctgctccctg atagccctgt 540
gggccagctt catgcctccc tactgggcct cagccaactc ctgcagcctg agggtcacca 600
ctgggagact cagcagattc caagcctcag tcccagccag ccatggcagc gtctccttct 660
ccgcttcaaa atccttcgca gcctccaggc ctttgtggct gtaccgccc gggctcttgc 720

ccatggagca gcaaccctga gtccctaaag gcagcagctc aaggatggca ctcagatctc 780
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tacttttttc aataaagtct tatttttgtg gcaaaaaaaaa aaaaaaa 1067

<210> 138
<211> 189
<212> PRT
<213> Homo sapiens

<400> 138
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Ala Gln Gly Arg Ala Val Pro Gly Gly Ser Ser Pro Ala Trp Thr Gln
20 25 30
Cys Gln Gln Leu Ser Gln Lys Leu Cys Thr Leu Ala Trp Ser Ala His
35 40 45
Pro Leu Val Gly His Met Asp Leu Arg Glu Glu Gly Asp Glu Glu Thr
50 55 60
Thr Asn Asp Val Pro His Ile Gln Cys Gly Asp Gly Cys Asp Pro Gln
65 70 75 80
Gly Leu Arg Asp Asn Ser Gln Phe Cys Leu Gln Arg Ile His Gln Gly
85 90 95
Leu Ile Phe Tyr Glu Lys Leu Leu Gly Ser Asp Ile Phe Thr Gly Glu
100 105 110
Pro Ser Leu Leu Pro Asp Ser Pro Val Gly Gln Leu His Ala Ser Leu
115 120 125
Leu Gly Leu Ser Gln Leu Leu Gln Pro Glu Gly His His Trp Glu Thr
130 135 140
Gln Gln Ile Pro Ser Leu Ser Pro Ser Gln Pro Trp Gln Arg Leu Leu
145 150 155 160
Leu Arg Phe Lys Ile Leu Arg Ser Leu Gln Ala Phe Val Ala Val Ala
165 170 175
Ala Arg Val Phe Ala His Gly Ala Ala Thr Leu Ser Pro
180 185

<210> 139
<211> 1785
<212> DNA
<213> Homo sapiens

<400> 139
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gaaaagacag ggaaaaaaat tctaagatac atgaatccca gaccattgct ctccaaatat 180
tttcaagtga ttcattctct ttatttaaaa aatgaattaa ccaccagatg ggacactcat 240

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acattcctga tgggtttagg aatcagtaga cctgtatgg aaagcaatag gataatattt 300
cataggatca aattaaaaatg ttcacagcat tggttccagg aaattggcct ctggagaatt 360
tatactccag aaacaattca acaaaagaac acagctctgt gcatgcagat gctcattagc 420
ccatcaccta gagtaaggga ahgtggagat cccaatgaac aacaatgaga tgggttagcg 480
aactgtgacc tatcagccca atggacattt aagcaatcac tgaaaagtag aaacatgaag 540
atattacaca acatggaac tgtttatgga gtatatattag gtaaaaagga aaaaaaggca 600
gaactgtata tctgtggttg gatatacttt ttttttttaa tattaagcac caaccaaaag 660
aagaaaggag gatagaaaaa ataaaatgga agatgtaggg tgggcagatt agggctgcgt 720
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aaggccctca ggaggaagca ctcatctta acaagacctg ctttctcagg actgcaaaca 1260
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atcacttacc caccctcacc ctctacttct agttcaccat cagcatcttt agctcttcta 1560
atttttgcca aagctgaatg cagttcttct ccaattttct tatatcattt taagtattat 1620
atatgctatc ttaccaggcc cactcagaga aacagcactt atctttaaaa ttatttttta 1680
actactcccc acagcctacg gccataaaa actctgtaaa ctatgttaaa tataccaaag 1740
taaagtttcc agaattcaca gaaaaaaaa aaaaaaaaa aaaaa 1785

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<210> 140
 <211> 86
 <212> PRT
 <213> Homo sapiens

<400> 140
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 Gly Ala Lys Gly Lys Cys Ile Ser Arg Thr Gly Gly Phe Ile Ile Pro
 20 25 30
 Ser Val Ser Asp Arg Met Val Thr Glu Ala Leu Trp Thr Tyr Phe Pro
 35 40 45
 Ala Phe Ser Ser His Gln Gly Trp Val Cys Thr Gly Gly Lys Gly Pro
 50 55 60
 Gln Glu Glu Ala Leu Ile Phe Asn Lys Thr Cys Phe Leu Arg Thr Ala
 65 70 75 80
 Asn Lys Arg Lys Ala Gln
 85

<210> 141
 <211> 947
 <212> DNA
 <213> Homo sapiens

<400> 141
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 tagctttccc tcttcgggca tcttggaag tggatacctg tggccttctt ttcactttga 120

aagcttacac cctcattttg actacaacta atactaaaag cttggcatct tgcttgagat 180
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cccatcactc agataacatc actgttaatg ttttgatatg tatttccagt cttttctatt 480
gtgttaattt ttcattttgt ttttgaataa ataactttca ggaagaaaat tgagcctttt 540
ctgccacctc tgaagcctga ttactgtgtg aagcaggcca tgaaggccat cctcactgac 600
cagcccatga tctgcactcc ccgcctcatg tacatcgtga ccttcatgaa gagcatccta 660
ccatttgaag cagttgtgtg catgtatcgg ttcctaggag cggacaagtg tatgtacccc 720
tttattgctc aaagaaaagca agccacaac aataatgaag caaaaaatg aatctaagaa 780
tctttttgta tgggaatatta cttctatcag aagatgatca agatgtttca gtccagtgc 840
catcagcatt gctgacattt tatggattct aaacttgtgt tgtttctttt ttaaatcaac 900
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<210> 142

<211> 65

<212> PRT

<213> Homo sapiens

<400> 142

Met Lys Ala Ile Leu Thr Asp Gln Pro Met Ile Cys Thr Pro Arg Leu
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Met Tyr Ile Val Thr Phe Met Lys Ser Ile Leu Pro Phe Glu Ala Val
20 25 30

Val Cys Met Tyr Arg Phe Leu Gly Ala Asp Lys Cys Met Tyr Pro Phe
35 40 45

Ile Ala Gln Arg Lys Gln Ala Thr Asn Asn Asn Glu Ala Lys Asn Gly
50 55 60

Ile
65

<210> 143

<211> 1148

<212> DNA

<213> Homo sapiens

<400> 143

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gcccgccccc cgagcccgc gccgcccttc gagggcgccc caggccgcgc catggtgaag 180
gtgacgttca actccgctct ggcccagaag gaggccaaga aggacgagcc caagagcggc 240
gaggaggcgc tcatcatccc ccccgacgcc gtcgcggtgg actgcaagga ccagatgat 300
gtggtaccag ttggccaaag aagagcctgg tgttggtgca tgtgctttgg actagcattt 360
atgcttgacg gtgttattct aggaggagca tacttgtaca aatattttgc acttcaacca 420
gatgacgtgt actactgttg aataaagtac atcaaagatg atgtcatctt aaatgagccc 480
tctgcagatg cccagctgc tctctaccag acaattgaag aaaatattaa aatctttgaa 540
gaagaagaag ttgaatttat cagtgtgcct gtcccagagt ttgcagatag tgatcctgcc 600
aacattgttc atgactttta caagaaactt acagcctatt tagatcttaa cctggataag 660
tgctatgtga tccctctgaa cacttccatt gttatgccac ccagaaacct actggagtta 720
cttattaaca tcaaggctgg aacctatttg cctcagtcct atctgattca tgagcacatg 780
gttattactg atcgattga aaacattgat cacctggggt tctttattta tcgactgtgt 840
catgacaagg aaacttacia actgcaacgc agagaaacta ttaaagggtat tcagaaacgt 900
gaagccagca attgtttcgc aattcggcat tttgaaaaca aatttgccgt ggaaacttta 960
atttgttctt gaacagtcac gaaaaacatt attgaggaat attaatatca cagcataacc 1020

ccacccttta cattttgtgc agtgattatt ttttaaagtc ttctttcatg taagtagcaa 1080
acagggtttt actatcttct catctcatta attcaattaa aaccattacc ttaaaaaaaaa 1140
aaaaaaaa 1148

<210> 144
<211> 266
<212> PRT
<213> Homo sapiens

<400> 144

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Val | Lys | Val | Thr | Phe | Asn | Ser | Ala | Leu | Ala | Gln | Lys | Glu | Ala | Lys |
| 1 | | | | 5 | | | | | 10 | | | | 15 | | |
| Lys | Asp | Glu | Pro | Lys | Ser | Gly | Glu | Glu | Ala | Leu | Ile | Ile | Pro | Pro | Asp |
| | | 20 | | | | | 25 | | | | | | 30 | | |
| Ala | Val | Ala | Val | Asp | Cys | Lys | Asp | Pro | Asp | Asp | Val | Val | Pro | Val | Gly |
| | 35 | | | | | | 40 | | | | | 45 | | | |
| Gln | Arg | Arg | Ala | Trp | Cys | Trp | Cys | Met | Cys | Phe | Gly | Leu | Ala | Phe | Met |
| | 50 | | | | 55 | | | | | | 60 | | | | |
| Leu | Ala | Gly | Val | Ile | Leu | Gly | Gly | Ala | Tyr | Leu | Tyr | Lys | Tyr | Phe | Ala |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Leu | Gln | Pro | Asp | Asp | Val | Tyr | Tyr | Cys | Gly | Ile | Lys | Tyr | Ile | Lys | Asp |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Asp | Val | Ile | Leu | Asn | Glu | Pro | Ser | Ala | Asp | Ala | Pro | Ala | Ala | Leu | Tyr |
| | | 100 | | | | | | 105 | | | | | 110 | | |
| Gln | Thr | Ile | Glu | Glu | Asn | Ile | Lys | Ile | Phe | Glu | Glu | Glu | Glu | Val | Glu |
| | 115 | | | | | | 120 | | | | | 125 | | | |
| Phe | Ile | Ser | Val | Pro | Val | Pro | Glu | Phe | Ala | Asp | Ser | Asp | Pro | Ala | Asn |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Ile | Val | His | Asp | Phe | Asn | Lys | Lys | Leu | Thr | Ala | Tyr | Leu | Asp | Leu | Asn |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Leu | Asp | Lys | Cys | Tyr | Val | Ile | Pro | Leu | Asn | Thr | Ser | Ile | Val | Met | Pro |
| | | 165 | | | | | | 170 | | | | | 175 | | |
| Pro | Arg | Asn | Leu | Leu | Glu | Leu | Leu | Ile | Asn | Ile | Lys | Ala | Gly | Thr | Tyr |
| | | 180 | | | | | 185 | | | | | | 190 | | |
| Leu | Pro | Gln | Ser | Tyr | Leu | Ile | His | Glu | His | Met | Val | Ile | Thr | Asp | Arg |
| | 195 | | | | | | 200 | | | | | 205 | | | |
| Ile | Glu | Asn | Ile | Asp | His | Leu | Gly | Phe | Phe | Ile | Tyr | Arg | Leu | Cys | His |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Asp | Lys | Glu | Thr | Tyr | Lys | Leu | Gln | Arg | Arg | Glu | Thr | Ile | Lys | Gly | Ile |
| 225 | | | | | 230 | | | | | 235 | | | | 240 | |
| Gln | Lys | Arg | Glu | Ala | Ser | Asn | Cys | Phe | Ala | Ile | Arg | His | Phe | Glu | Asn |
| | | | 245 | | | | | | 250 | | | | | 255 | |
| Lys | Phe | Ala | Val | Glu | Thr | Leu | Ile | Cys | Ser | | | | | | |
| | | 260 | | | | | | 265 | | | | | | | |

<210> 145
 <211> 1353
 <212> DNA
 <213> Homo sapiens

<400> 145
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 caactgacct gccctattcc tggctgatct catgctgctg aagttcaagg cgctggacac 180
 actaccctga tttttgttg acctggccta gcctcattaa cttggcaatt agttggtggt 240
 tttctttctt tcttcttctt ttttttttta attcatttca tttctgtcac cccttaattt 300
 tcatctttct tttttaagta gttgttccat gctgtgtgtt tttgttttat ctttcattgc 360
 ctttcctctt gcagtcaaca ttatgacctg gggactccag catccttcaa gcaagccatt 420
 tccgaagaag gtgaaaagaa gccaggatga ttggcacctc ctccctctcc tccctctctt 480
 cctcttccct tggccagccc cctcctgtgc gtgtgtttca gacaacacag gagccagcac 540
 aggagtggaa aatcctgcag cgcaactcag ctcagcccac agaagccttg ggaatggcct 600
 cagttttgtgc aataagaaga tttttttttt ctttttaaatt cttcattata ttttcttga 660
 ttgtctgtga gaaagtaccc aggtccgcct ggaattactc tacagtagaa ataactgaac 720
 acaaacaac tgatggaaaa aaagagttaa ctattttatt tatttcaata tttaaaagga 780
 aaaaagtgtc gacatggcac agtatttttg tttaaagtac ctccctacttc aaaagttaag 840
 cgcaattttg tgaagacatg aaatcataag agtacttaat gtaaaataaa agactgcata 900
 ttaactctaa agaaaaatgc cccacatttt aaataagaaa ataaagatca actctgctct 960
 ctcaggcttt ttaaaaagcc attcatgtat gtgctttagg tatttttatt tctgagagtt 1020
 ggatgtggta agtgaggagt gctcagtttt ttttctctcc ttcaaaagtc tattgaaagt 1080
 gttggtgatg ttaaatgatt gtgtgttaag atttgactga aataacttag ccacaaatca 1140
 gcagtttccc ccacctcat tgccccctca cccaggcaa gccctttta tctgaatgtc 1200
 agaagcagcc tgctctctag ttatcatgtc tgatgaggtc tagctcagga aggaattcca 1260
 tctattgatg gaatatatcc cctcaagttc aatagattcg aacacagaga gctttgttta 1320
 aaataatgca gcaaaaaaaaa aaaaaaaaaa aaa 1353

<210> 146
 <211> 113
 <212> PRT
 <213> Homo sapiens

<400> 146
 Met Leu Leu Phe Phe Val Leu Ser Phe Ile Ala Phe Pro Ser Ala Val
 1 5 10 15
 Asn Ile Met Thr Trp Gly Leu Gln His Pro Ser Ser Lys Pro Phe Pro
 20 25 30
 Lys Lys Val Lys Arg Ser Gln Asp Asp Trp His Leu Leu Leu Leu
 35 40 45
 Leu Phe Phe Leu Phe Pro Cys Pro Ala Pro Ser Cys Ala Cys Val Ser
 50 55 60
 Asp Asn Thr Gly Ala Ser Thr Gly Val Glu Asn Pro Ala Ala Gln Leu
 65 70 75 80
 Ser Ser Ala His Arg Ser Leu Gly Asn Gly Leu Ser Leu Cys Asn Lys
 85 90 95
 Lys Ile Phe Phe Phe Phe Leu Asn Leu His Tyr Ile Phe Phe Asp Cys
 100 105 110
 Leu

<210> 147
 <211> 2312
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> (2224)

<220>
 <221> unsure
 <222> (2236)

<400> 147
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 ccgcctcca agcgcgcccc gagcagcccc gtggctaagc cgggtcctgt caagacgctc 180
 actcgaaga aaaacaagaa gaaaaaagg ttttgaaaa gcaaggcgcg ggaagtaagc 240
 aagaagccag caagcgcccc cgggtgctgt gtgcgacctc caaaggcacc agaagacttt 300
 tctcaaaact ggaagcgct gcaagagtgg ctgctgaaac aaaaatctca ggcgccagaa 360
 aagcctcttg tcatctctca gatgggttcc aaaaagaagc ccaaattat ccagcaaac 420
 aaaaagaga cctcgctca agtgaaggga gaggagatgc cggcaggaaa agaccaggag 480
 gccagcagg gctctgttcc ttcaggttcc aagatggaca ggaggcgcc agtacctcgc 540
 accaaggcca gtggaacaga gcacaataag aaaggaaacca aggaaaggac aaatgggtgat 600
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 gccataggtc cagagcgggc caagatagcg aggaaacagt tgggtcagag cgagggcagc 780
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 aattaaattg gccaggggtt ggctggtggg tcaaccagca gaggttcttc cccatagcac 1980
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 ggacggagtc caagcggtta ttgggccacc tgacagctgg acagaaaagg ggcagacaca 2220
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 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa 2312

<210> 148
 <211> 422
 <212> PRT

<213> Homo sapiens

<400> 148

Met Gly Lys Ala Lys Val' Pro Ala Ser Lys Arg Ala Pro Ser Ser Pro
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Val Ala Lys Pro Gly Pro Val Lys Thr Leu Thr Arg Lys Lys Asn Lys
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Lys Lys Lys Arg Phe Trp Lys Ser Lys Ala Arg Glu Val Ser Lys Lys
35 40 45
Pro Ala Ser Gly Pro Gly Ala Val Val Arg Pro Pro Lys Ala Pro Glu
50 55 60
Asp Phe Ser Gln Asn Trp Lys Ala Leu Gln Glu Trp Leu Leu Lys Gln
65 70 75 80
Lys Ser Gln Ala Pro Glu Lys Pro Leu Val Ile Ser Gln Met Gly Ser
85 90 95
Lys Lys Lys Pro Lys Ile Ile Gln Gln Asn Lys Lys Glu Thr Ser Pro
100 105 110
Gln Val Lys Gly Glu Glu Met Pro Ala Gly Lys Asp Gln Glu Ala Ser
115 120 125
Arg Gly Ser Val Pro Ser Gly Ser Lys Met Asp Arg Arg Ala Pro Val
130 135 140
Pro Arg Thr Lys Ala Ser Gly Thr Glu His Asn Lys Lys Gly Thr Lys
145 150 155 160
Glu Arg Thr Asn Gly Asp Ile Val Pro Glu Arg Gly Asp Ile Glu His
165 170 175
Lys Lys Arg Lys Ala Lys Glu Ala Ala Pro Ala Pro Pro Thr Glu Glu
180 185 190
Asp Ile Trp Phe Asp Asp Val Asp Pro Ala Asp Ile Glu Ala Ala Ile
195 200 205
Gly Pro Glu Ala Ala Lys Ile Ala Arg Lys Gln Leu Gly Gln Ser Glu
210 215 220
Gly Ser Val Ser Leu Ser Leu Val Lys Glu Gln Ala Phe Gly Gly Leu
225 230 235 240
Thr Arg Ala Leu Ala Leu Asp Cys Glu Met Val Gly Val Gly Pro Lys
245 250 255
Gly Glu Glu Ser Met Ala Ala Arg Val Ser Ile Val Asn Gln Tyr Gly
260 265 270
Lys Cys Val Tyr Asp Lys Tyr Val Lys Pro Thr Glu Pro Val Thr Asp
275 280 285
Tyr Arg Thr Ala Val Ser Gly Ile Arg Pro Glu Asn Leu Lys Gln Gly
290 295 300

Glu Glu Leu Glu Val Val Gln Lys Glu Val Ala Glu Met Leu Lys Gly
305 310 315 320

Arg Ile Leu Val Gly His⁴ Ala Leu His Asn Asp Leu Lys Val Leu Phe
325 330 335

Leu Asp His Pro Lys Lys Lys Ile Arg Asp Thr Gln Lys Tyr Lys Pro
340 345 350

Phe Lys Ser Gln Val Lys Ser Gly Arg Pro Ser Leu Arg Leu Leu Ser
355 360 365

Glu Lys Ile Leu Gly Leu Gln Val Gln Gln Ala Glu His Cys Ser Ile
370 375 380

Gln Asp Ala Gln Ala Ala Met Arg Leu Tyr Val Met Val Lys Lys Glu
385 390 395 400

Trp Glu Ser Met Ala Arg Asp Arg Arg Pro Leu Leu Thr Ala Pro Asp
405 410 415

His Cys Ser Asp Asp Ala
420

<210> 149

<211> 2103

<212> DNA

<213> Homo sapiens

<400> 149

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gcttccagga tcttgagatc cggagcagcc ggggtcggag cggctcctca agagtactg 180
atctatgaaa tggcagagaa tggaaaaaat tgtgaccaga gacgtgtagc aatgaacaag 240
gaacatcata atggaaatct cacagacccc tcttcagtga atgaaaagaa gaggagggag 300
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gagcaaatgg tggctttcat tgggtctgtc cccggcatag gtccatctct gcagaagcca 1200
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 ctttttatga tgcattgcac abcctctggg gaaattgatc tttaaatttt gagacagtat 1980
 aaggaaaaatc tggttggtgt cttacaagtg agctgacacc attttttatt ctgtgtattt 2040
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 aaa 2103

<210> 150

<211> 406

<212> PRT

<213> Homo sapiens

<400> 150

Met Ala Glu Asn Gly Lys Asn Cys Asp Gln Arg Arg Val Ala Met Asn
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Lys Glu His His Asn Gly Asn Phe Thr Asp Pro Ser Ser Val Asn Glu
 20 25 30

Lys Lys Arg Arg Glu Arg Glu Glu Arg Gln Asn Ile Val Leu Trp Arg
 35 40 45

Gln Pro Leu Ile Thr Leu Gln Tyr Phe Ser Leu Glu Ile Leu Val Ile
 50 55 60

Leu Lys Glu Trp Thr Ser Lys Leu Trp His Arg Gln Ser Ile Val Val
 65 70 75 80

Ser Phe Leu Leu Leu Leu Ala Val Leu Ile Ala Thr Tyr Tyr Val Glu
 85 90 95

Gly Val His Gln Gln Tyr Val Gln Arg Ile Glu Lys Gln Phe Leu Leu
 100 105 110

Tyr Ala Tyr Trp Ile Gly Leu Gly Ile Leu Ser Ser Val Gly Leu Gly
 115 120 125

Thr Gly Leu His Thr Phe Leu Leu Tyr Leu Gly Pro His Ile Ala Ser
 130 135 140

Val Thr Leu Ala Ala Tyr Glu Cys Asn Ser Val Asn Phe Pro Glu Pro
 145 150 155 160

Pro Tyr Pro Asp Gln Ile Ile Cys Pro Asp Glu Glu Gly Thr Glu Gly
 165 170 175

Thr Ile Ser Leu Trp Ser Ile Ile Ser Lys Val Arg Ile Glu Ala Cys
 180 185 190

Met Trp Gly Ile Gly Thr Ala Ile Gly Glu Leu Pro Pro Tyr Phe Met
 195 200 205

Ala Arg Ala Ala Arg Leu Ser Gly Ala Glu Pro Asp Asp Glu Glu Tyr
 210 215 220

Gln Glu Phe Glu Glu Met Leu Glu His Ala Glu Ser Ala Gln Asp Phe
 225 230 235 240

Ala Ser Arg Ala Lys Leu Ala Val Gln Lys Leu Val Gln Lys Val Gly

245 250 255
 Phe Phe Gly Ile Leu Ala Cys Ala Ser Ile Pro Asn Pro Leu Phe Asp
 260 265 270
 Leu Ala Gly Ile Thr Cys Gly His Phe Leu Val Pro Phe Trp Thr Phe
 275 280 285
 Phe Gly Ala Thr Leu Ile Gly Lys Ala Ile Ile Lys Met His Ile Gln
 290 295 300
 Lys Ile Phe Val Ile Ile Thr Phe Ser Lys His Ile Val Glu Gln Met
 305 310 315 320
 Val Ala Phe Ile Gly Ala Val Pro Gly Ile Gly Pro Ser Leu Gln Lys
 325 330 335
 Pro Phe Gln Glu Tyr Leu Glu Ala Gln Arg Gln Lys Leu His His Lys
 340 345 350
 Ser Glu Met Gly Thr Pro Gln Gly Glu Asn Trp Leu Ser Trp Met Phe
 355 360 365
 Glu Lys Leu Val Val Val Met Val Cys Tyr Phe Ile Leu Ser Ile Ile
 370 375 380
 Asn Ser Met Ala Gln Ser Tyr Ala Lys Arg Ile Gln Gln Arg Leu Asn
 385 390 395 400
 Ser Glu Glu Lys Thr Lys
 405

<210> 151
 <211> 1330
 <212> DNA
 <213> Homo sapiens

<400> 151
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 tgagggggtt tgctgtggc ttgtcctgct acatttcttg gttccctgac caggaaacaa 120
 ggtgattaat ggatggtcga gacagctcct taggtggctt aggcctgccc tgtggagcat 180
 acctgagggg gactccagcc agcttgagtg aagcagatcc tgagagcact cccaggtagg 240
 caattgcccc agtggaatgc ctcacagag cagtgcacag caggcccctg tggaggatca 300
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 accttttctg ctgccatgac aaccatgcaa ggaatggaac aggccatgcc aggggctggc 420
 cctgggtgtg cccagctggg aaacatggct gtcatacatt cacatctgtg gaaaggattg 480
 caagagaagt tcttgaaggg agaaccctaa gtccttgggg ttgtgcagat tctgactgcc 540
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 <213> Homo sapiens

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 165 170 175
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 180 185 190
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 195 200 205
 Ser Ala Phe Gly Cys Lys Val Leu Cys Cys Thr Pro Gly Gly Val Val
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<212> DNA
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<210> 154

<211> 396

<212> PRT

<213> Homo sapiens

<400> 154

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Val Gly Lys Ser Thr Phe Phe Asn Val Leu Thr Asn Ser Gln Ala Ser
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Ala Glu Asn Phe Pro Phe Cys Thr Ile Asp Pro Asn Glu Ser Arg Val
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Pro Val Pro Asp Glu Arg Phe Asp Phe Leu Cys Gln Tyr His Lys Pro
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Ala Ser Lys Ile Pro Ala Phe Leu Asn Val Val Asp Ile Ala Gly Leu
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Val Lys Gly Ala His Asn Gly Gln Gly Leu Gly Asn Ala Phe Leu Ser
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 Lys Lys Leu Lys Pro Glu Tyr Asp Ile Met Cys Lys Val Lys Ser Trp
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<211> 2291

<212> DNA

<213> Homo sapiens

<400> 155

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<211> 211

<212> PRT

<213> Homo sapiens

<400> 156

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Gln Lys Pro Phe Ile Cys His Arg Lys Thr Lys Gly Gly Asp Leu Met
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Leu Val His Tyr Glu Gly Tyr Leu Glu Lys Asp Gly Ser Leu Phe His
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Ser Thr His Lys His Asn Asn Gly Gln Pro Ile Trp Phe Thr Leu Gly
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Ile Leu Glu Ala Leu Lys Gly Trp Asp Gln Gly Leu Lys Gly Met Cys
85 90 95

Val Gly Glu Lys Arg Lys Leu Ile Ile Pro Pro Ala Leu Gly Tyr Gly
100 105 110

Lys Glu Gly Lys Gly Lys Ile Pro Pro Glu Ser Thr Leu Ile Phe Asn
115 120 125

Ile Asp Leu Leu Glu Ile Arg Asn Gly Pro Arg Ser His Glu Ser Phe
130 135 140

Gln Glu Met Asp Leu Asn Asp Asp Trp Lys Leu Ser Lys Asp Glu Val
145 150 155 160

Lys Ala Tyr Leu Lys Lys Glu Phe Glu Lys His Gly Ala Val Val Asn
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<212> DNA
<213> Homo sapiens

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<211> 239

<212> PRT

<213> Homo sapiens

<400> 158

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| Thr | His | Val | Leu | Ser | Gly | Lys | Pro | Leu | Arg | Thr | Leu | Asn | Val | Leu | Leu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gly | Ile | Ala | Arg | Gly | Cys | Trp | Val | Leu | Ser | Tyr | Asp | Trp | Val | Leu | Trp |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Ser | Leu | Glu | Leu | Gly | His | Trp | Ile | Ser | Glu | Glu | Pro | Phe | Glu | Leu | Ser |
| | 65 | | | | 70 | | | | | 75 | | | | | 80 |
| His | His | Phe | Pro | Ala | Ala | Pro | Leu | Cys | Arg | Ser | Glu | Cys | His | Leu | Ser |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Ala | Gly | Pro | Tyr | Arg | Gly | Thr | Leu | Phe | Ala | Asp | Gln | Pro | Ala | Met | Phe |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Val | Ser | Pro | Ala | Ser | Ser | Pro | Pro | Val | Ala | Lys | Leu | Cys | Glu | Leu | Val |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| His | Leu | Cys | Gly | Gly | Arg | Val | Ser | Gln | Val | Pro | Arg | Gln | Ala | Ser | Ile |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Val | Ile | Gly | Pro | Tyr | Ser | Gly | Lys | Lys | Lys | Ala | Thr | Val | Lys | Tyr | Leu |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Ser | Glu | Lys | Trp | Val | Leu | Gly | Lys | Asn | Pro | Gly | Thr | Gln | Thr | Leu | Trp |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Cys | Gly | Pro | Asp | Leu | Trp | Thr | Gly | Phe | Gln | Gly | Gly | Arg | Arg | Gln | Ala |
| | | | 180 | | | | | 185 | | | | | | 190 | |
| His | Thr | Pro | Phe | His | Ala | Ala | Gly | Ala | Pro | Gly | Leu | Met | Ser | Gln | Pro |
| | 195 | | | | | | 200 | | | | | 205 | | | |

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Ser Leu Leu Leu Ala Asp Val Gln Phe Thr Arg Lys Trp Glu Leu
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 <212> DNA
 <213> Homo sapiens

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<211> 86

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<213> Homo sapiens

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Met Thr Phe Leu Phe Gln Arg Met Met Met Met Thr Asn Arg Asn
20 25 30

Tyr Arg Lys Glu Lys Ala Leu Thr Glu Glu Met Val Met Leu Ser Val
35 40 45

Ser Leu Pro Ser Leu Ser Ala Glu Arg Leu Gly Glu Gly Pro Gln Pro
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Pro Ser Leu Val Lys Leu Pro Val Trp Ser Met Thr Val Phe His Pro
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Arg Leu Trp Glu Ala Pro
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<212> PRT
<213> Homo sapiens

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Ser Glu Ala Ser Ala Asn Leu Gly Gly Val Pro Ser Lys Arg Leu Lys
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20 25 30
Glu Asn Pro Phe Leu Glu Val Ser Ala Pro Ser Glu His Phe Ile Glu
35 40 45
Asn Asn Asn Thr Lys Asp Thr Thr Ala Arg Asn Ala Phe Glu Glu Asn
50 55 60
Val Phe Met Glu Asn Thr Asn Met Pro Glu Gly Thr Ile Ser Glu Asn
65 70 75 80
Thr Asn Tyr Asn His Pro Pro Glu Ala Asp Ser Ala Gly Thr Ala Phe
85 90 95
Asn Leu Gly Pro Thr Val Lys Gln Thr Glu Thr Lys Trp Glu Tyr Asn
100 105 110
Asn Val Gly Thr Asp Leu Ser Pro Glu Pro Lys Ser Phe Asn Tyr Pro
115 120 125
Leu Leu Ser Ser Gln Val Ile Ser Leu Lys Phe Ser
130 135 140